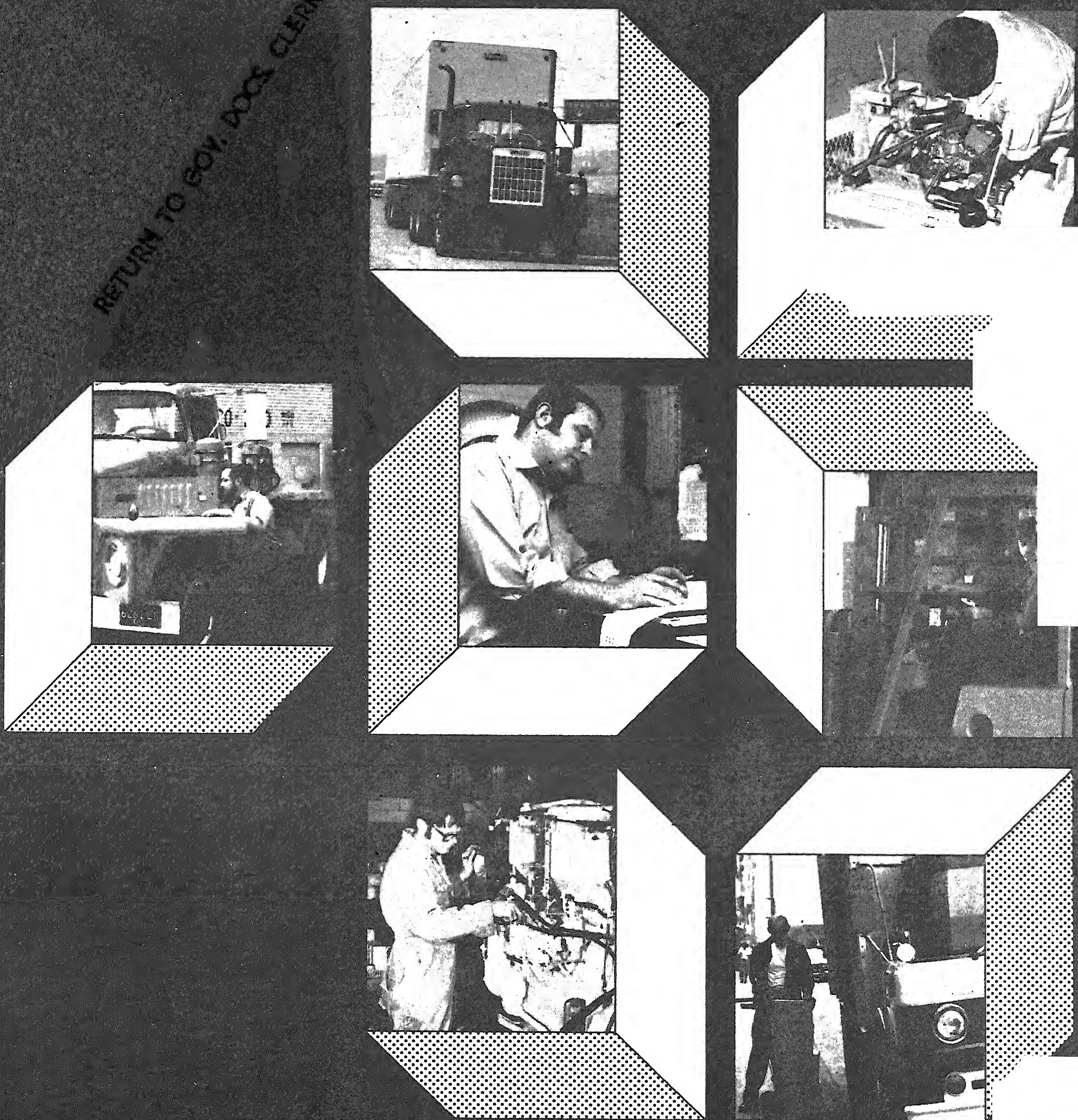
Career Opportunities in the Trucking Industry

Occupational and Career Information Series
No. 2

U.S. Department of Labor
Employment and Training Administration



SELECTED OCCUPATIONAL AND CAREER INFORMATION PUBLICATIONS OF THE U.S. EMPLOYMENT SERVICE

Where current prices are listed, publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of all publications may be found at local Job Service offices and at public and school libraries.

CAREER OPPORTUNITIES IN THE TELEPHONE AND TELEGRAPH INDUSTRIES, 1977, 68 pp. Illus. $2.30

First in new series on occupations and careers in various industries. Developments, trends, and career opportunities in the two industries are covered. Twenty-four occupations are described, many of them entry level or first line. Each description lists educational and training requirements as well as worker traits. Glossary and bibliography.

OCCUPATIONS IN LIBRARY SCIENCE, 1973, 75 pp. Illus. $0.90.

This updating of the 1966 brochure discusses the nature of occupations in library science and describes the many changes which have taken place in recent years. Twenty-five library occupations are described, as well as the education, training, and worker traits.

HEALTH CAREERS GUIDEBOOK, 1973, 166 pp. Illus.

A cooperative effort by the U.S. Employment Service, The National Institutes of Health of the U.S. Department of Health, Education, and Welfare, and the National Health Council, the *Guidebook* contains information gathered from over 70 agencies in the health field. Primarily for high school and college students, it gives up-to-date information on professional and paraprofessional health occupations, and the education and training required. A new *Guidebook* is scheduled for publication early in 1978.

OCCUPATIONS IN ELECTRONIC COMPUTING SYSTEMS, 1972, 130 pp. Illus. $1.40.

This brochure discusses developments and trends in electronic computing systems. Twenty-nine occupations specific to the field are described, as well as the education, training, and worker traits usually required. Contains a glossary of technical terms, a bibliography, and a list of sources of additional information.

RETAIL TRADE, SELECTED DEPARTMENT STORE OCCUPATIONS, 1972, 103 pp. Illus.

Describes background of department store retailing and employment features of a modern department store. Forty-five occupations in a typical department store are described as well as the education, training, and worker traits usually required.

JOB DESCRIPTIONS AND ORGANIZATIONAL ANALYSIS FOR HOSPITALS AND RELATED HEALTH SERVICES, 1971 (revised), 732 pp. $9.75.

Provides information on occupations in hospitals and includes descriptions of organizational patterns and functional responsibilities in hospital staffing. Describes 238 jobs and the education and training and worker traits of each.

OCCUPATIONS AND TRENDS IN THE DAIRY PRODUCTS INDUSTRY, 1970, 186 pp. Illus.

Describes recent technological developments in the dairy products industry. Sixty-six occupations are identified and described, as well as the education, training, and worker traits usually required.

OCCUPATIONAL ANALYSIS OF COMPUTERS IN MEDICAL SCIENCE, 1969, 90 pp. Illus. $1.

Reviews the introduction and effect of computer technology on medical and research practices, and on supporting institutional functions. Nineteen occupations are described, including education, training, and worker traits usually required.

Career Opportunities in the Trucking Industry

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No. 2

U.S. Department of Labor
Ray Marshall, Secretary
Employment and Training Administration
Ernest G. Green
Assistant Secretary for Employment and Training
1978

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SPECIAL NOTICE

The occupational descriptions contained in this volume have been compiled from a number of different sources and therefore describe the individual occupations in a generalized composite form. Consequently, no description can be expected to coincide exactly with any specific job in a particular establishment or in a particular locality. To be of greater usefulness, the descriptions should be supplemented by local information concerning the specific jobs in the community.

The U.S. Employment Service has no responsibility for settling jurisdictional matters or setting wages and hours. In the preparation of occupational descriptions, no facts concerning such matters were collected. It should be clearly understood, therefore, that because of their nature, these occupational descriptions cannot be considered standards for the determination of wages, hours, or jurisdictional matters.

The inclusion of photographs bearing particular brand or trade names does not constitute endorsement of that brand or product by the U.S. Department of Labor or the Federal Government.

FOREWORD

In addition to their primary assignment of matching available jobs with persons seeking work, the U.S. Employment Service of the Employment and Training Administration and the affiliated State Job Service offices have broad responsibilities and interests in conserving, developing, and utilizing the Nation's work force. The development of up-to-date and accurate career information represents one facet of employment service activities in implementing those responsibilities and in helping those needing such information to choose career goals.

The U.S. Employment Service's Occupational and Career Information Series publication on the trucking industry is designed to provide an occupationally oriented overview of the field for employment and career counselors, as well as students and other interested readers. It contains detailed descriptions of current occupations, employer's educational and training requirements, the worker traits considered necessary for successful performance on the job, and material on how to acquire the needed education and training for entry into the field. A compilation of trucking jargon and a glossary of standard trucking terminology are included, along with a bibliography of materials on recent employment developments and outlook for the occupations in this industry.

Occupational descriptions were derived from source data used in developing job definitions and job classification factors for the fourth edition of the *Dictionary of Occupational Titles*. Published by the Department of Labor for use by the Employment Service and the affiliated State Job Service offices in serving both job applicants and employers, the *Dictionary* describes and classifies most occupations found in the American economy.

As with previous occupational and career information publications, the materials in this document can be used by persons in and outside the Employment Service who are engaged in education, counseling, placement recruitment, and training. Other occupational brochures still in print, published by the U.S. Employment Service, are listed on the inside front cover.

William B. Lewis

WILLIAM B. LEWIS
Administrator
U.S. Employment Service

ACKNOWLEDGMENTS

The materials for this publication were developed primarily by Roderick Smith in the Occupational Analysis Field Center of the Missouri State Employment Service, Bernard Teiber, Center Supervisor. Portions of the document were prepared for national publication by Susan Raleigh. The U.S. Employment Service's Occupational and Career Information Series is produced under the supervision of Jules Spector. The series is compiled in the Division of Occupational Analysis, Emanuel Weinstein, Supervisory Occupational Analyst, Richard Mendenhall, Chief, under the general direction of the U.S. Employment Service's Office of Technical Support, Harold Kuptzin, Director.

We would like especially to thank the Yellow Freight Systems, Inc., St. Louis, Mo., and Superior Forwarding Company, St. Louis, Mo., for supplying occupational photographs; the American Trucking Associations, Inc., Washington, D.C., for photographs and valuable source material.

For photographs of antique and late model trucks, occupational photographs, and source material we are grateful to the following: Autocar Trucks, a Division of White Motor Corporation, Exton, Pa.; Dodge Division of Chrysler Corporation, Detroit, Mich.; Clark Equipment Company, Battle Creek, Mich.; Diamond Reo Trucks, Lansing, Mich.; Eaton Corporation, Cleveland, Ohio; Ford Motor Company, Dearborn, Mich.; GMC Truck and Coach Division, General Motors Corporation, Pontiac, Mich.; Kenworth Motor Truck Company, Seattle, Wash.; Lift Trucks, Inc., Cincinnati, Ohio; Mack Trucks, Inc., Allentown, Pa.; Otis Elevator Company, Cleveland Ohio; The Raymond Corporation, Greene, N.Y.; Townmotor Corporation, subsidiary of Caterpillar Tractor Company, Cleveland, Ohio; White Freightliner Division of White Motor Corporation, Portland Oreg.; and White Trucks Division of White Motor Corporation, Cleveland, Ohio.

Others we wish to thank include the U.S. Department of Transportation, Washington, D.C., for a copy of "The National System of Interstate and Defense Highways"; Heavy Specialized Carriers Conference, American Trucking Associations, Inc., Washington, D.C.; and several State trucking associations.

CONTENTS

THE HISTORY OF TRUCKING

WHERE DID IT ALL BEGIN?

Like that of other industries, the history of trucking embodies stories of success and failure. An endless process of trial and error preceded the invention of self-propelled vehicles as hundreds of individuals, widely separated in time and place, made their contributions. Robert F. Karolevitz, in *This Was Trucking*, writes, "The idea of self-powered road devices goes back to antiquity. In 130 B.C., Hero of Alexandria predicted such an apparatus operated by steam. Homer mentioned 'self-moved' contrivances in his immortal *Iliad*. The versatile genius, Leonardo da Vinci, was intrigued with the concept, and during the thirteenth century Roger Bacon wrote, 'It will be possible to construct chariots so that without animals they may be moved with incalculable speeds.' "[1]

Experimentation with the first crude engines was a harbinger of things to come. Compressed air, hydrogen gas, coal gas, ammonia, and steam were early sources of power as philosophers and mechanics combined forces in what became a relentless quest.

In 1769, a French military officer, Captain Nicholas Joseph Cugnot of Lorraine, designed a steam-propelled, three-wheeled gun carriage which has come to be recognized as the first true ancestor of modern automobiles and trucks. Cugnot's device, however, was not practical although it achieved speeds of 3 miles an hour while carrying several passengers. A second model, in 1770, was unsuccessful.

Charles Dallery of Amiens followed Cugnot's lead and in 1790 constructed a successful steam carriage. By the turn of the century steam omnibuses were appearing regularly on the streets of Paris. At the same time Nathan Read of Salem, Mass., and Apollo Kinsley of Hartford, Conn., unveiled steam vehicles to awestruck spectators in the infant United States.

It is very easy to agree with Mr. Karolevitz when trying to document the history of self-powered vehicles: "The historical chronology becomes difficult to trace, while claims and counterclaims have been commonplace through the years." While the exponents of steam power were to persist for more than a century, another widely scattered group of inventors and mechanics was pursuing a totally different concept: the internal combustion engine.

Carl Benz and Gottlieb Daimler, German inventors who supposedly never met, are generally conceded preeminence in the field of gasoline-driven vehicles. Benz introduced his first car, a tricycle type, in 1885, a year before Daimler completed a four-wheel model. Still earlier, however, were J. J. E. Lenoir, a Belgian, and Siegfried Marcus of Austria, who built workable autocarts in the 1860's. In the United States, Charles E. and J. Frank Duryea teamed up to produce what is now considered to be the first successful gasoline-engine vehicle in America. It was first operated on September 21, 1893, in Springfield, Mass., and consisted of a second-hand carriage (which the Duryeas bought for $70) and a one-cylinder engine.

Just who was first in the flurry of experimentation that began in the mid-1890's is debatable. Mechanics and inventors from coast to coast turned from bicycles and horse carriages to the new auto craze. Many were contributors to the begin-

[1] Robert F. Karolevitz, *This Was Trucking* (Seattle: Superior Publishing Company, 1966).

ning of this new era. The Langert Company of Philadelphia entered a gasoline delivery wagon in the 1896 Cosmopolitan race (from New York City to Irvington-on-the-Hudson and return). In that same year the Cruickshank Engineering Works of Providence, R.I., converted a horse van into a steam wagon for a local department store.

Further west, Charles E. Woods, a Chicago carriage builder, was reputedly the first to produce work vehicles commercially with the introduction of several light, electric delivery wagons. In Portland, Oreg., C. S. Fairfield built a sightseeing stagecoach powered by a kerosene engine.

In 1898 the first traces of competition began to develop. Alexander Winton unveiled a tiller-guided gasoline delivery wagon, said to be the first such model produced in commercial quantities. Concurrently, the Duryea Motor Wagon Company of Springfield, Mass., mounted a panel body on a three-wheel chassis. Meanwhile, A. L. Riker, a Columbia College Law School graduate more interested in electricity, was working feverishly on several battery-powered vehicles. In the 1898 electrical show held in Madison Square Garden, he exhibited a 2,900-pound delivery wagon built for the B. Altman & Company dry goods store. The battery alone weighed 1,000 pounds!

The Stanley brothers of Newton, Mass., photographic dry-plate makers, entered the field with light steam delivery trucks. By 1900 the White Sewing Machine Company of Cleveland, Ohio, had a similar steam vehicle.

In 1899 the St. Louis Carriage Company introduced a small gasoline model with a piano-box carrying the unique name, Rigs-that-Run. Waverleys, General Electrics, Columbias, Woods and Rikers were prominent battery-driven entries. With Samuel Insull as president, the Woods Motor Vehicle Company of Chicago sold several mail-collecting wagons to the U.S. Post Office Department and three 1,500-pound, electric utility trucks to the U.S. Signal Corps.

Before the turn of the century, the threshold had been crossed. Private industry was obviously interested. The Federal Government was intrigued.[2]

HORSEPOWER: FROM ANIMAL STRENGTH TO MACHINE POWER

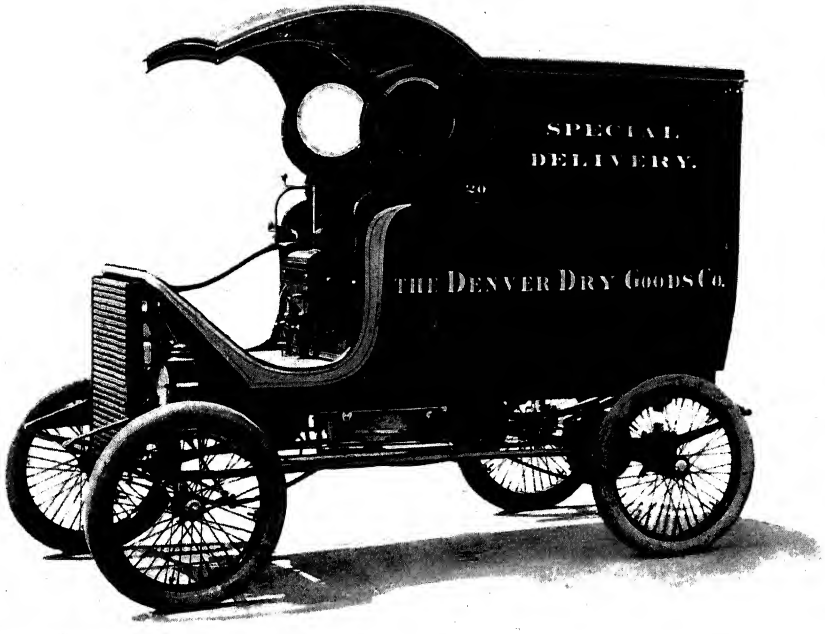
For as long as recorded history the horse has been a faithful servant of man. For more than 4,000 years the horse carried cavalry into war, pulled chariots of rulers, served as a means of communication, was memorialized in stone and bronze and, in short, was almost essential in the advancement of civilization. Then, overnight, the horse had become "old Dobbin." He was charged with being too slow, being old-fashioned, demanding too much space and attention to keep, eating too much, being a menace to health. Writers in popular and scientific periodicals decried the pollution of the public streets, and during World War I the horse was even said to hamper his country because the leather and iron he needed to do his job were also very much wanted for military purposes.

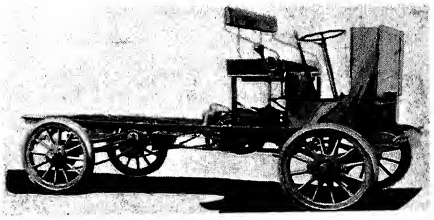
Businessmen's bookkeepers had much to do with the horse's demise. It did not take long for the accountant to document that a horse and wagon cost a businessman $111.20 a month—or $4.45 a day or more than 26 cents a mile. Furthermore, one animal covered a limited number of miles in a day. But trucks, traveling at the rate of 12 miles an hour, 50 miles a day, could operate for at least 10 cents a mile. The more teams of horses a company required, the more the costs escalated. And what the bookkeepers did not do, representatives of the new truck companies did. They editorialized on horses succumbing to heat and dropping dead on the streets while the motor truck was virtually unaffected. One writer claimed, "Five acres of farm land are necessary to produce the food consumed each year by a single horse, who eats about 12,000 pounds annually. Based upon an estimated 24 million horses in the United States, the acreage devoted to keeping [horses] alive is more than sufficient to feed the entire human population of the country".[3]

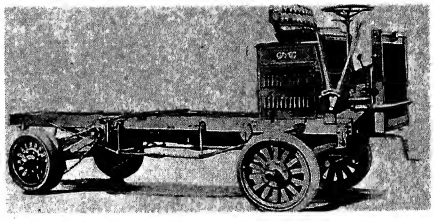
But the horse did not disappear. It had loyal supporters who would not give way to "progress." The horse is still with us in specialized roles, although its days of hauling freight are over.

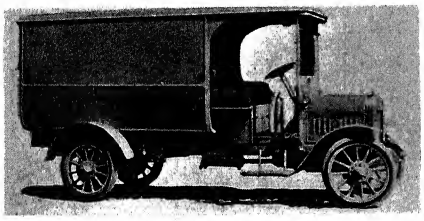
[2]Ibid.
[3]Ibid.

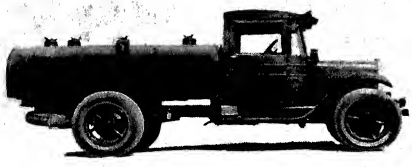
A PICTORIAL REVIEW OF TRUCKS IN THE U.S., 1900-77

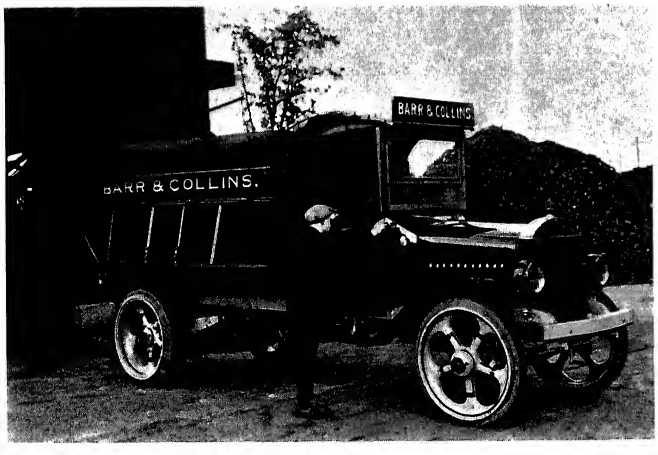


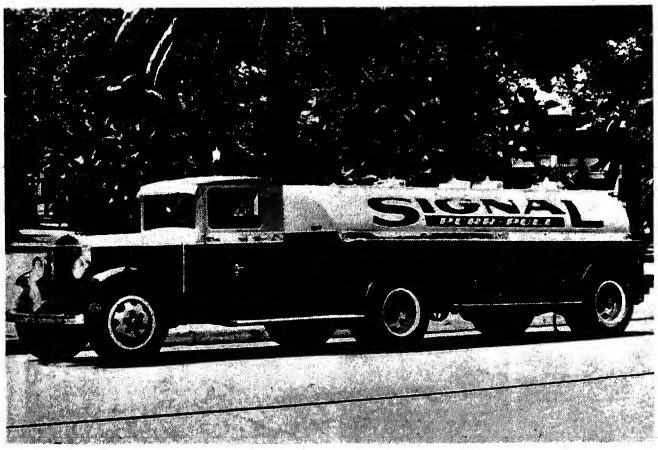


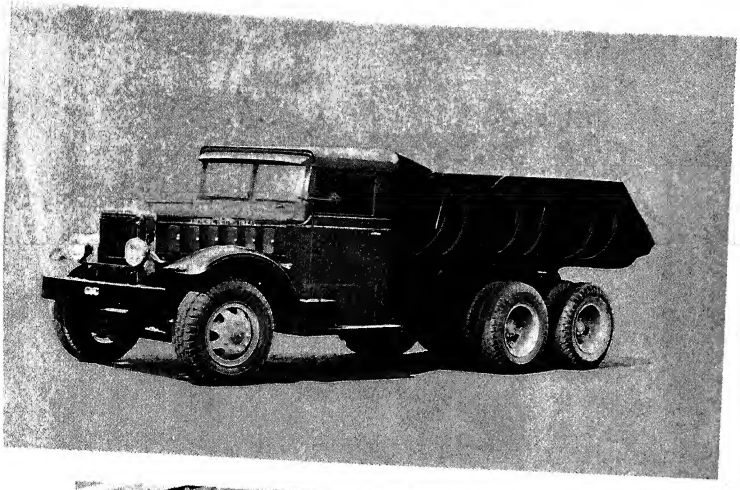


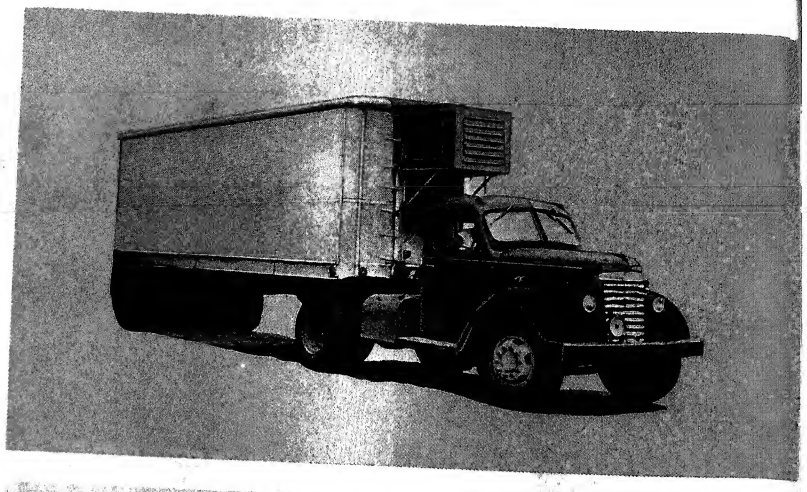


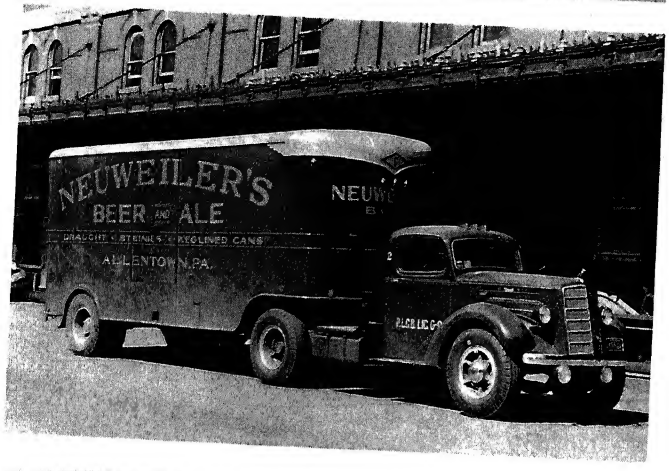








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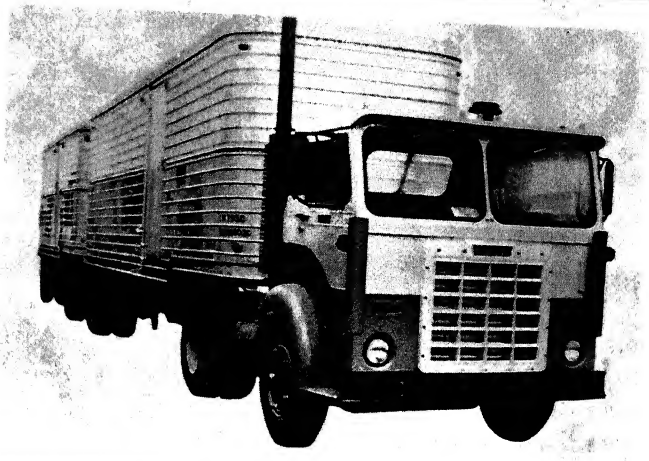

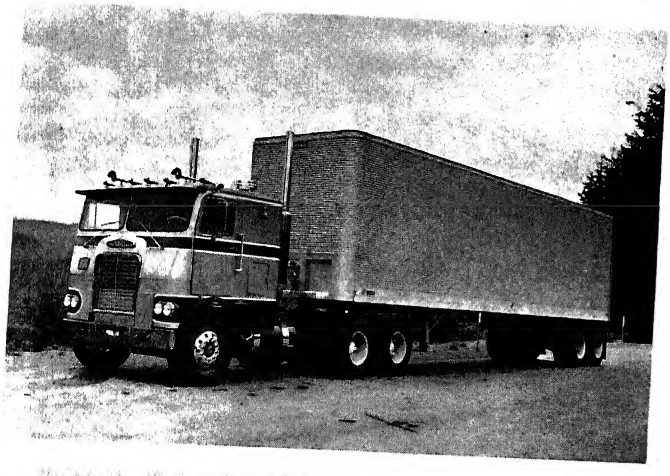


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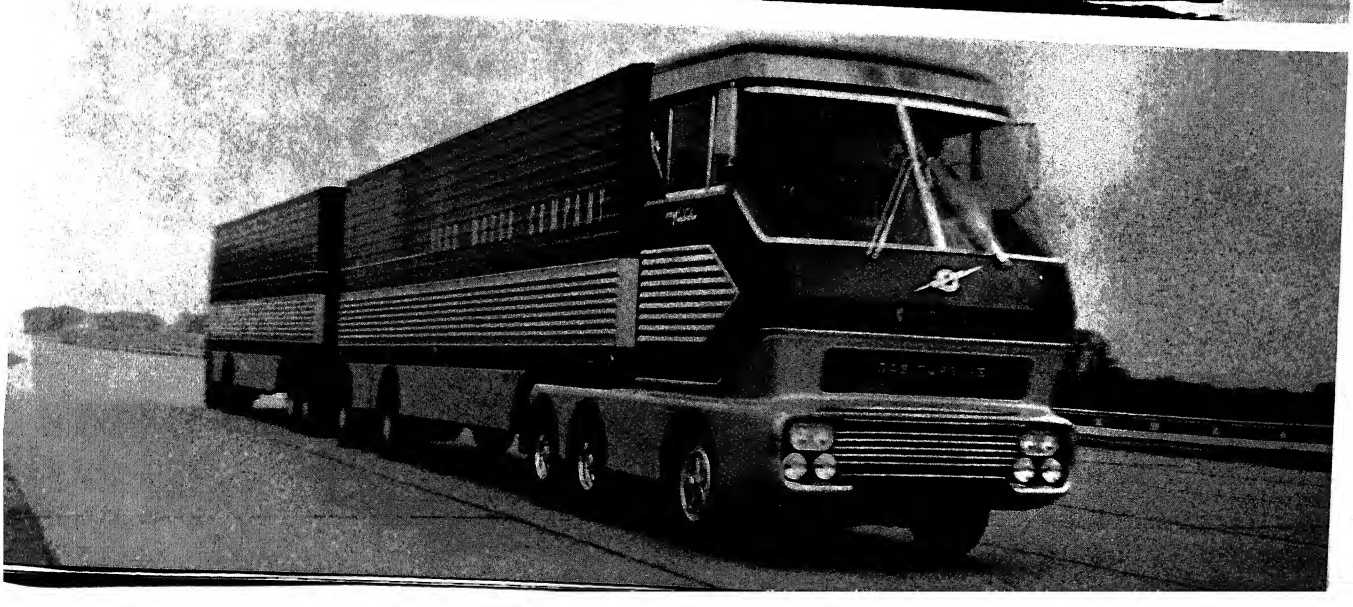


THE CONTEST

As Mr. Karolevitz states in his book, the evolution of the automobile and truck was a time of "tests, tears, and triumphs." Contests of speed, strength, and endurance seemed the best way to prove to the world that the motor vehicle had arrived—for pleasure and for commerce. In 1895 the *Chicago Times-Herald* sponsored the first two automotive races ever held in the United States.

Some historians believe that trucking, as a separate industry, had its beginning with a 1903 commercial truck contest, sponsored by the Automobile Club of America. Ten vehicles took part in this most unusual event. For the next 3 years there was a notable upsurge in truck manufacturing.

In 1911, the first cross-country journey by a truck was made. It was done in two stages, beginning on March 4 from Denver, Colo. The trip took 66 days to cross the mountains and cover the 1,500 miles to Los Angeles. From there the 7-ton truck was driven to San Francisco where it was loaded on a railroad car and shipped to Pueblo, Colo. The second leg of the journey was completed when the truck arrived in New York City on June 12, in the same year. In 1912, a Packard truck made the trip from New York to San Francisco in just 46 days, carrying a 3-ton payload.

"There were many other tests of strength, of endurance, of economy, of new equipment and other automotive selling points. The promotion technique inevitably culminated in a publicity man's dream, when Miss Luella Bates, 'a mere slip of a girl,' piloted a 3-ton Four Wheel Drive on a transcontinental trip, after first driving the vehicle from the FWD plant in Clintonville, Wis., to the New York Auto Show of 1920. She was one of six female drivers selected by the company to demonstrate the steering ease and maneuverability of the big trucks which played such a vital role during World War I."[4]

WORLD WAR I TRUCKS

In the pursuit of Pancho Villa, the U.S. Army used trucks and automobiles on a full scale for the first time. In 1916, General John J. Pershing led 22 companies of 25 trucks each, 400 miles into the Mexican interior. Before the 11-month campaign was over, 128 different makes and models of trucks were in use. Thanks indirectly to Pancho Villa, when Congress declared war on April 6, 1917, the U.S. Army had built up their fleet of serviceable trucks to some 2,400. Pershing was to lead his expeditionary force in France during that war. Severely short of vehicles, he borrowed trucks from the French, and continually cabled the chief of staff in Washington, D.C., for thousands of additional vehicles.

It is estimated that at one time the Army had in use 294 different makes and body types of motor vehicles, 213 of which were manufactured in the United States. Supply officers tried to keep track of almost 60,000 separate and noninterchangeable spare parts, not to mention additional thousands of nuts, bolts, screws, and cotter keys.

Trucks were vital to the war effort. But so was standardization. *A Horseless Age* editorial in 1918 read, "This war has advertised the motor truck to the world more than anything else ever could." Infancy and adolescence had been left behind; the industry had come of age.

The end of World War I made available thousands of trucks to be disposed of by the government. At the same time the State governments were facing the necessity of building roads. More than 25,000 military vehicles were distributed to each of the 48 States' highway departments to aid in their road building.

THE ROADS

Children of future generations may find it hard to believe that their ancestors often sank axle-deep in mud right in the middle of a town's main street.

The development of motorized vehicles obviously demanded changes in our roads and byways. One of our most commonly used terms today, "macadam surface," originated in 1815. John Loudon McAdam developed the specific process. The first macadamized road in the United States was the Lan-

[4]Ibid.

caster Turnpike between Philadelphia and Lancaster, Pa.

In 1916 there were some 3.6 million trucks and autos driving on U.S. roads, or mired in them. In July of that year, President Woodrow Wilson signed the Federal Aid Road Act (the Tice Law), the first legislation drafted to establish a nationwide system of interstate highways. Since the first 2.55 miles of road were laid in California in 1918 under this Act, other legislation has been passed. It became clear as time ran on that the task of building an interstate highway system would be endless.

In summary, three main historical events stimulated the growth of the trucking business: the emergency demands of World War I; the release, after the war, of thousands of surplus vehicles; and the passage of the Federal Road Aid Act in 1916, providing Federal aid to States for road building.

CHANGING TIMES

Prior to 1925 there were more than 330 truck manufacturers. Businesses of the majority of builders did not survive the war. Today we have fewer than 15 major manufacturers of all types of trucks, producing everything from standard production line pickups to heavy customized tractors.

But the 1920's brought positive change. Improvements ranged from better fuel and lubricants, better tires, lights, and windshields to better designs in the truck, such as the separation of cab and trailer. Durability was exemplified by the Mack Bulldog truck which became an industry symbol and was the origin of the famous phrase, "built like a Mack truck."

During the depression of the 1930's, when the nation faced its darkest economic hours, the trucking industry made perhaps its most dramatic impact on our economy. Consumers, merchants, and manufacturers during the prosperous years had been accustomed to buying in quantity. Now consumers were forced to spread their buying more thinly to accommodate heavy salary cuts. As a result, merchants and manufacturers found they needed to eliminate huge storage facilities. By incorporating trucks into their supply and distribution methods, both merchants and manufacturers found they could diversify their stock by purchasing small lots. They relied on the truck to deliver daily shipments rather than weekly and monthly supplies.

It was during the difficult times of the thirties that men like A. J. Harrell rapidly built an efficient trucking operation. Harrell made a substantial contribution to the motor-carrier industry, and to the economy of Oklahoma. He began by selling buggies in Oklahoma City, saved his money, and went into the horse-and-mule business. By 1921, the post-World War I lull in the national economy had affected this business and Harrell joined his brother, G. C. Harrell, who had started a taxi service, the Yellow Cab Company of Oklahoma City. A. J. led the company into public bus transportation, then into a string of independent gasoline stations to support their cabs and buses, and then into trucking. "The early trucking operations of the Yellow Cab Transit Company were inauspicious."[5] Initial rolling stock consisted of only two vehicles, a pair of four-cylinder White trucks with straight truck bodies.

Harrell acquired other trucking companies, or their operating rights, and built a large, very sound Midwestern trucking company. Yellow prospered through the depression. Today, as a result of A. J. Harrell's early initiative and ingenuity, Yellow Freight Systems is one of the country's leading carriers, operating coast to coast.

The history of Yellow Freight Systems, Inc., is just one of the many fascinating stories of freight companies from the early days of trucking. There are literally hundreds of similar stories in the pages of motor carrier history.

THE PRESENT

The thirties was an era of new highways and new trucks. Construction continued on the interstate highway system. At the same time more specialized trucks were being designed and built. There were trucks to carry gasoline, fuel oil, tar, live-

[5]James F. Filgas, *Yellow in Motion* (Indiana Business Report No. 41; Bloomington, Ind.: Indiana University, Bureau of Business Research Graduate School of Business, 1967).

stock, farm produce, milk, meat, automobiles, structural steel, and many other commodities needing special transportation units. Separation of the power unit, or tractor, from the trailer meant that one tractor could be used to pull various types of trailers. It also meant that a tractor could disconnect a trailer at the terminal to be loaded or unloaded. The tractor, pulling another trailer, was then free to be used elsewhere for delivery or pickup. This alone boosted intercity service. In the years between 1923 and 1939, truck-trailer manufacture increased more than 100 percent. By 1940, trailers were produced at the rate of about 40,000 units per year. After World War II, in 1946, production increased to 76,234 units; in 1953, to 97,102 units; and in 1969 to 138,347 units with shipments valued at $717 million dollars.

World War II took its toll of the Nation's fleet. New trucks were used by the government for military efforts. Existing trucks owned by industry were wearing out. After the war the trucking industry began the job of rebuilding its fleet. Old trucks were replaced and new units were added. "Double bottom" trailers, or tractor and trailer rigs made up of two trailers, were introduced. The 1970 registration is estimated at 17.8 million trucks of all types. Eight million Americans derive their livelihood from the trucking industry, which has a payroll of over $61 billion dollars annually. This includes only those people employed by motor carriers, not the millions of workers involved in the manufacturing and servicing of transportation equipment and supplies. Furthermore, the American Trucking Associations, Inc., estimates that in 1980 there will be 24.7 million motor truck registrations in the U.S.[6]

A VITAL INDUSTRY

Practically everything we eat, wear, or use moves by truck. Trucks are important to all members of society, individuals and groups alike—farmer, worker, consumer, family, public health and safety personnel, newspapers and television, national defense, mail delivery, and industry in general, wholesaler and retailer.

There are over 3 million trucks on farms. Eighty-nine percent of farm products now reach their market by motor transport. Some crops could not even be harvested without the aid of trucks.

Trucking provides one of the most significant opportunities for self-employment. "Some 72 percent of all trucks are in fleets of five vehicles or less."[7] Many of the owners of these small fleets (1 to 5 vehicles) were drivers for other trucking companies. As they felt they had enough experience in trucking, the drivers became owners, first of one truck and, in some situations, another. Generally this owner is also a driver, usually known in the industry as an "owner operator" or "independent trucker." Magazines like Owner Operator contain information on the latest in trucks to the most recent laws affecting trucking; many other subjects are included and it is published expressly for the independent trucker.

Trucking has also changed the availability of certain commodities. Oranges were once a Christmas treat to the consumer. Now, largely because of truck transport, they are available year-round everywhere in the land. "Over 66 percent of Florida's fruits shipped out of state are hauled by truck."[8] Almost anything that is grown or made anywhere in the world can now be delivered to the consumer. Trucking has brought coast-to-coast mobility and has aided dispersal of our population to the suburbs and rural areas. The nation's workers have a better opportunity to live where they want to, work where they wish, and go where they like because trucking supplies both industry and small businesses with goods and services that allow remote communities to exist far from the fixed routes of railroads, waterways, and airports. "Over 36,000 American communities now depend entirely upon trucks for supply."[9] And, when moving day comes, whether it is across town or from the east coast to the west coast, household goods are moved 90 percent of the time by

[7] *1971 Facts for Drivers* (Washington: American Trucking Associations, Inc., Department of Safety, 1971).

[6] *American Trucking in 1980* (Washington: American Trucking Associations, Inc., Department of Research and Transport Economics, 1968).

[8] Ibid.

[9] Ibid.

motor transport.

Trucks have other important roles: Thousands of lives are rescued because of ambulances; homes are saved because of fire trucks; and utility trucks install and maintain our electricity, gas, water, and telephones. News and advertising in the nation's many newspapers (circulation over 100 million) depend on trucks. Trucks are indispensable when it comes to our national defense. General George S. Patton during World War II said, "The truck is our most valuable weapon." Today's manufacturing cannot operate without trucks to supply raw materials for production and shipment of finished goods to the market. The post office vehicle fleet numbers in the thousands, with thousands of other independently owned trucks also helping to deliver almost 80 billion pieces of mail. Construction companies move mountains, build dams, and erect buildings faster because of trucks. Specialized heavy carriers perform unimaginable feats, such as moving a 635-ton refinery reactor pressure vessel from a barge to a construction site.[10]

In 1968, trucks hauled over 400 billion ton-miles (see Glossary) of freight in intercity transportation, about 22 percent of the total ton-mileage compiled by all types of transportation.

A major contribution that trucking makes to the economy lies in the billions of dollars in salaries paid to workers who manufacture and service trucks. In a typical year trucks use over 22 billion gallons of motor fuel and over 1.5 billion quarts of oil. They need about 21 million tires to replace wornout tires and to use on new vehicles. In the manufacture of some 1,888,812 new trucks and 138,448 trailers in 1969, over 4 million tons of steel and 47,500 tons of copper and 27,500 tons of aluminum were used. Other materials used in the manufacture of trucks include plastic, lumber, glass, paint, tin, lead, iron, and cotton—all in tremendous quantities.[11]

Not in the trucking industry, but important to it as well as to public safety, are occupations in the Federal Government dealing with various aspects of the trucking industry. According to the U.S. Department of Transportation, Bureau of Motor Carrier Safety, "This Bureau's primary function is the development and administration of a national safety program in which commercial interstate motor carriers are involved. It is a Federal agency governed by the laws and regulations of the U.S. Civil Service Commission and all of its employees are in the Federal career civil service. There are approximately 200 such employees, comprised mostly of Highway Safety Management Specialists (Motor Carrier Safety Investigators) but also including some mechanical engineers, analysts, and supporting personnel."

Because these jobs are Civil Service, descriptions and qualifications will not appear in this brochure. Detailed information on these occupations is available at local U.S. Civil Service Commission offices.

[10] *Truck Drivers' Dictionary and Glossary* (Washington: American Trucking Associations, Inc., Education Section, 1977).

[11] *1971 Facts for Drivers* (Washington: American Trucking Associations, Inc., Department of Safety, 1971).

TYPES OF CARRIERS

The American Trucking Associations has defined classes of carriers in the following manner:

Trucks are classified in two basic categories and are known as for-hire and private carriers. The for-hire carriers are carriers engaged in transportation for compensation of one or more classes of freight that are the property of others. The for-hire group embraces both common and contract carriers.

COMMON CARRIERS

The motor vehicle common carrier is available to the general public for the transportation of property by motor vehicle over regular or irregular routes in interstate operation. A common carrier is granted a certificate of public convenience and necessity by the Federal Government through the Interstate Commerce Commission, which constitutes its operating authority.

Common carriers range from the carrier of general commodities to a specialized carrier, such as one for household goods or new automobiles. The for-hire common carriers constitute the predominant segment of regulated interstate property-carrying motor carriers.

Interstate common carriers of freight are classified by the Interstate Commerce Commission as Class I, Class II, and Class III carriers, with gross annual revenues, respectively, of $1 million or more, $300 thousand to $1 million; under $300 thousand.

Within the general categories listed above, motor carriers conduct one or more types of operations. These include general freight carriers, household goods carriers, oil field haulers, automobile carriers, film carriers, heavy specialized carriers, munitions carriers, livestock carriers, farm haulers, local cartage carriers, tank truck carriers (for liquid and/or dry bulk cargo), refrigerated haulers (for perishable commodities), and other highly specialized carriers.

CONTRACT CARRIERS

The contract carrier of property is a type of for-hire carrier that engages in transportation under continuing contracts with one person or a limited number of persons either (a) for the furnishing of transportation services through the assignment of motor vehicles for a continuing period of time to the exclusive use of each person served; or (b) for the furnishing of transportation services designed to meet the distinct need of each individual customer.

The interstate contract carrier's operating authority is derived from a permit issued by the Interstate Commerce Commission.

The contract carrier operates under a bilateral contract with one or more shippers and he is, in fact, a substitute for private carriage.

A contract carrier may be any type of commodity hauler. One of the best known is the distribution hauler, who hauls from warehouse or rail terminals to retail outlets. Another type is the over-the-road contract carrier who hauls for his shippers between their plants and the warehouses of jobbers. Others serve different kinds of shippers but relatively few of each kind.

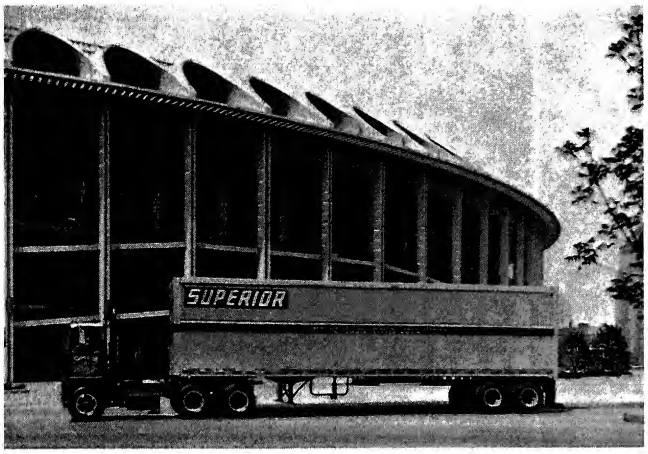
Intrastate, for-hire carriers, operating entirely within a single State, are subject to regulation by their State public utility commission.

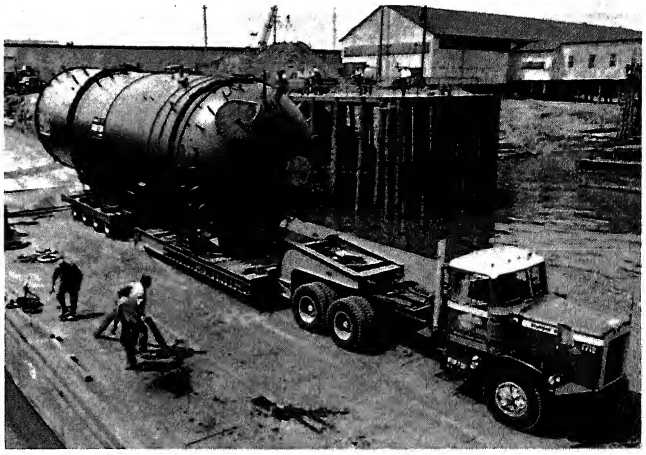
PRIVATE MOTOR CARRIERS

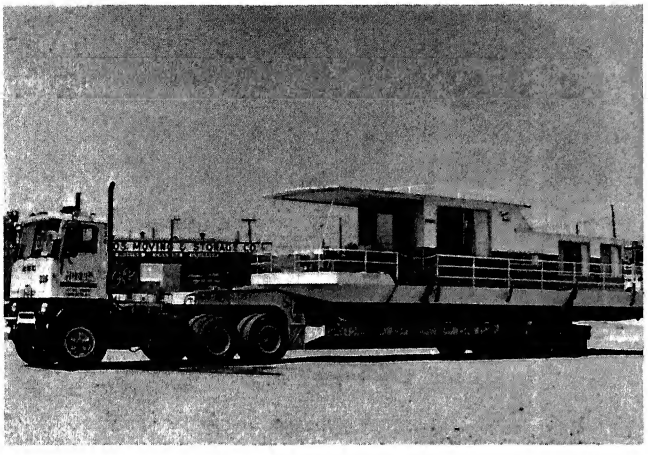
Private motor carriers are the second group of carriers. The private motor vehicle transports property of which the operator of the motor carrier is the owner or lessee, when such transportation is for the purpose of sale, lease, rent, or in furtherance of any commercial enterprise. This group requires no operating authority from the Interstate Commerce Commission, since interstate private carriers are not subject to economic regulation but only to safety regulation. Private motor carriers constitute the largest group of motor carriers of property.[12]

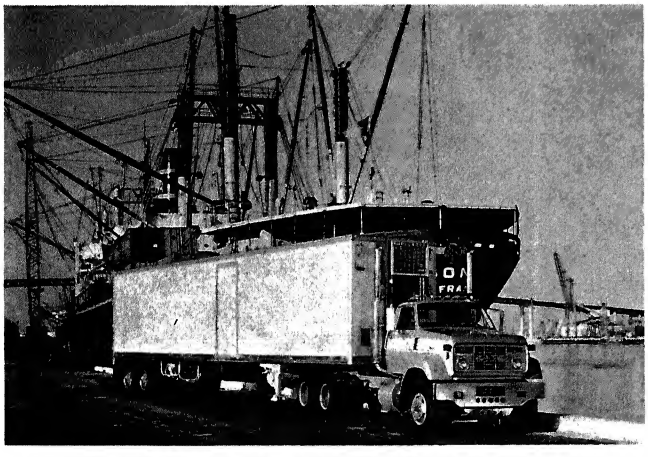
[12]Ibid.

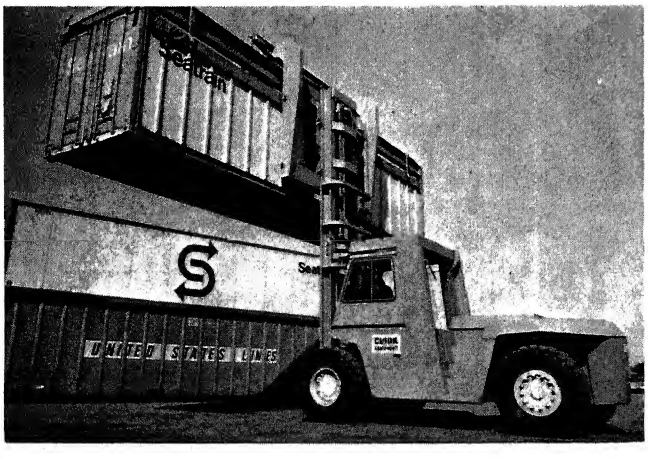
Private carriers.

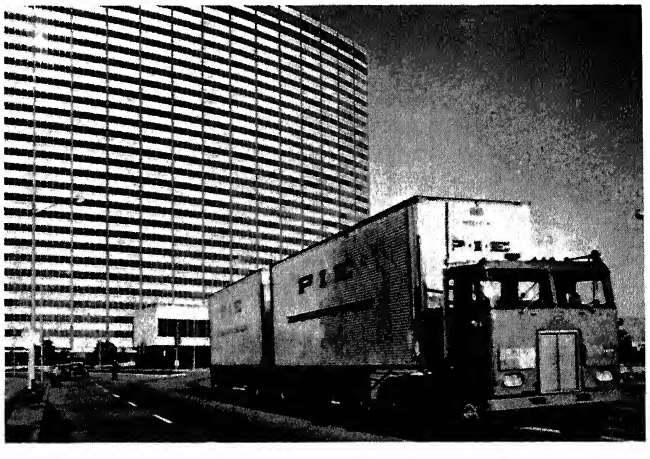




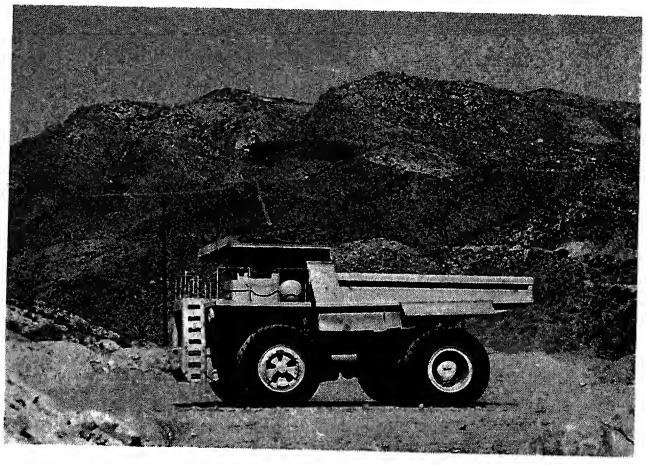


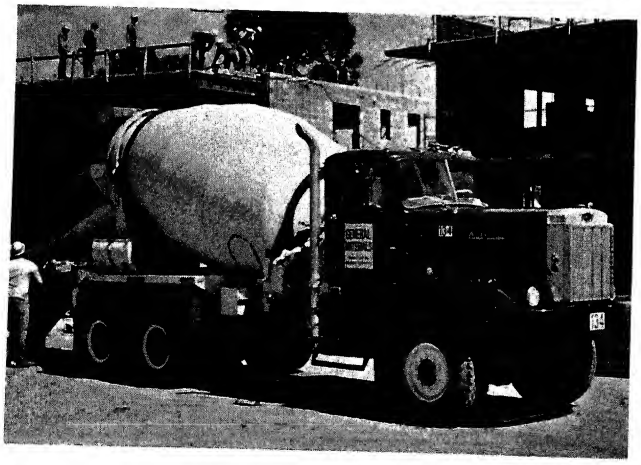






Private carriers.





EDUCATION AND TRAINING

The trend seems to be toward hiring workers with a high school diploma or the equivalent. It is true that many workers are hired without a high school education. Chance for advancement is comparatively limited, however. Most firms prefer high school graduates, or someone who has successfully completed the general educational development tests (GED) and received a certificate of high school equivalence from the State. Two reasons for this are that it shows the employer that the applicant has the ability to finish a job, and it permits the employer to promote capable workers into more responsible positions that may require attainment of a certain level of education. Although the certificate of high school equivalence is not a high school diploma, many colleges and employers accept the certificate on a basis equal to that of a high school diploma. Many schools and universities offer specific courses to prepare an applicant for the GED tests.

To qualify for the certificate of high school equivalence, the applicant must be at least 18 years of age, a legal resident of a State, and make a passing score on the GED tests. There may be local exceptions in which, under certain circumstances, the age limit may be lowered to 16 or 17 years. The tests cover the following areas: Correctness and Effectiveness of Expression, Interpretation of Reading Materials in Social Studies, Interpretation of Reading Materials in the Natural Sciences, Interpretation of Literary Materials, and General Mathematics Ability. The tests last for two days and are given at prescribed locations in each State.

Local high schools or boards of education will be able to provide the application for the examination. They may also be able to suggest specific books or courses that can help in preparation for the tests.

Armed forces personnel are eligible to receive the certificate on the basis of United States Armed Forces Institute (USAFI) general educational development tests. The information or education section of the respective branches of service give information on the general educational development tests.

WHEN AND WHERE?

High school age is not too early to begin education for a career in the trucking industry. Many training authorities and employers recommend that young people interested in becoming professional truck drivers take the driver-training courses offered by a number of high schools. Where such a course is unavailable, a reputable driving school may be recommended. Several trucking companies operate driving schools, some are cosponsored by universities and State trucking associations.

Mechanics can also start in high school and continue in automotive trade school. Most trucking companies hiring an inexperienced mechanic, start the worker as an Apprentice Mechanic or as a Mechanic Helper. Union and management have worked out a variety of ways to qualify a worker as a Mechanic. Usually the apprentice works 36 to 40 hours a week and attends 4 hours of automotive trade school as part of, or in addition to, the regular work week. The program is a standard 4 years, and upon com-

pletion the worker is generally promoted to the status of a Mechanic.

For someone not interested in becoming a "truck jockey" or "hood lifter" (see Trucking Jargon), where would education begin for other jobs in the trucking industry? Again, high school seems to have the unanimous vote of industry and educators.

In high school, preparation may begin with general academic courses. Then consideration may be given to enrollment in a junior college for specialized courses, or in a university for a degree in one of the many areas of transportation. The American Trucking Associations, Inc. (ATA), Education Section, or local State trucking associations makes available the publication, *Directory of Transportation Education in U.S. Colleges and Universities.*

A few of the many courses offered by the 648 colleges and universities listed in the ATA's directory are the following: Transportation, general, motor transportation, transportation engineering, traffic, marketing, and business. Addresses and courses offered are also given.

Degrees may be earned at the associate, bachelor, master, or doctorate level, specializing in one or more of the areas offered. Below is a partial list of the degrees offered:

Associate of arts in transportation.
Bachelor of arts with major in transportation.
Bachelor of science in business administration with major in transportation.
Bachelor of science in transportation.
Bachelor of science in civil engineering with major in highway transportation.
Bachelor degree in economics with major in transportation.
Master of arts with major in transportation.
Master of business administration with major in transportation.
Master of science in transportation.
Master of civil engineering (in highway transportation).
Doctor of business administration with major in transportation.
Doctor of civil engineering (in highway transportation).
Doctor of philosophy (in transportation engineering).

Another ATA publication, *Scholarship Programs of Motor Carrier Companies and Associations,* lists trucking companies, foundations, organizations, and associations that offer high school and college students financial aid toward education in transportation.

Military veterans may find it worthwhile to find out from the local office of the Veterans' Administration whether they qualify for GI benefits. As an example, North Carolina State University at Raleigh, with its North Carolina Truck Driver Training School (cosponsored by North Carolina Motor Carriers Association) is approved by the Veterans' Administration under the GI bill of rights. The Veterans' Administration office must issue a certificate of eligibility.

ABOUT TRUCK DRIVER SCHOOL

Why should you consider truck driver school? What should you ask yourself before investing in training? What should you expect from a truck driver school? What happens on completion of truck driver school? These are some of the basic questions to be considered before proceeding.

First, why should you consider truck driver school? The California Trucking Association (owner and operator of CTA's Truck Driver School in Los Angeles, Calif.) says "Truck driving has outgrown the 'seat of the pants' era. It is now a job that requires great responsibility—formal training in the hands of experts is the quickest and most economical way to become a professional driver."

Leaders of the California Trucking Association have long recognized the need for professionally trained drivers who have a greater knowledge of customer relations, company profits, preventive maintenance, and the proper handling of equipment.

Scientific methods of training and hiring drivers have begun to pay off dramatically in better safety records, lower insurance premiums and in improved public image.[13]

What should you ask yourself before investing in truck driving training? Questions that the California Trucking Association suggests be answered before enrolling in a truck driver school are the following:

[13] *Where's the Best Place to Start a Career as a Truck Driver? At the Top!* Burlingame, Calif. California Trucking Association, 1976.

	YES	NO
1. Is job security important to you?		
2. Would you like to earn a top wage?		
3. Do you like to drive?		
4. Are you a careful driver?		
5. Do you like to travel, be outdoors?		
6. Are you at least 18 years old? (To drive interstate you must be 21.)		
7. Is your vision at least 20/40 in each eye with or without glasses?		
8. Are you without any appreciable hearing loss?		
9. Is your physical condition such that you have not suffered loss of hand or arm, foot or leg, or any structural defect or disease likely to interfere with safe driving?		
10. Are you able to read and write in English?		
11. Have you operated a motor vehicle in all four seasons of the year?		
12. Is your record free from any convictions of law violations that indicate a lack of respect for law or unskilled motor vehicle driving?		

If you have answered yes to the above questions it may be to your advantage to consider enrolling in a truck driver school.

What should you expect from a truck driver school? The American Trucking Associations' pamphlet, *What to Look for in a Truck Driver Training School*, reads as follows:

The training school should have adequate facilities, equipment, and trained instructors to provide the knowledge and skills necessary for the local and road truck driving jobs.

The school should have proper classrooms for the instruction given. They should be comparable to the average public school classroom. In addition to lectures the school should have audiovisual equipment and materials to illustrate subjects where necessary. These may be movies, slides, charts, pictures, etc.

The school must provide the various types of trucks, tractors, and semitrailers on which instruction is necessary; they should be relatively new and well maintained. In addition, the school should have its privately used area for instruction and practice driving in skill tests to teach proper vehicle handling and maneuvering.

Instructors must have a proper background through experience and training in truck driving and preferably should hold qualifying certificates from an educational institution as teachers or driver trainers. This may be a certificate of attendance at a driver trainer course offered at a university or college.

Determine if the school has been accredited by the Accreditation Committee of the National Association of Trade and Technical Schools. Accreditation means the school has high standards of operation.

The following list shows required training subjects, classroom and outside instruction on the vehicle, and the minimum time recommended for each.

Subject	Time	
	Classroom	Outside Instruction
Orientation	1-2 hours	—
Introduction to vehicle	1 hour	2 hours
Basic operating techniques	4 hours	8 hours
Inspection of equipment	1 hour	2 hours
Training exercises	1 hour	—
a. Skill tests	—	8 hours
b. Road tests (in traffic)	—	1 hour
c. Student trips	—	24-30 hours*
Safe driving rules and regulations	6-8 hours	—
Accident procedure	2 hours	—
Fire fighting	1 hour	1-2 hours
First aid	1-2 hours	—

*Minimum 8 hours per vehicle type.

Classroom time may consist of time in home study courses as well as actual time in classroom.

Be wary of promises of immediate employment and school claims that it is endorsed by the Federal Government, trucking associations, or truck fleets. Caution is also advisable in dealing with contact organizations for which such endorsement is claimed and contact fleets named as having immediate employment available.

In evaluating truck driver training schools, consult with trucking firms or trucking associations in the area in which the school is located. Usually they will be able to give good advice based upon their knowledge of the quality of instruction at the school in question.[14]

AFTER COMPLETING SCHOOL

What should you expect after completing truck driver school? ATA writes, "Count on not starting at the top salary in the truck driving field but on starting as a dock worker or a pickup and delivery driver and working your way to the top job."

[14] *What to Look for in a Truck Driver Training School* (Washington: American Trucking Associations, Inc., 1977).

If you like to go places, however, to meet new people and to make a better-than-average income, completing a truck driver training program is the path toward building your career.

An over-the-road driver may drive massive new rigs worth $40,000 and up. Truck tractors today can have instrument panels that would delight any airline pilot, custom interiors of plush materials, and extras such as 8-track stereo tape players, television, and AM/FM built-in radios with recessed stereo speakers. Sleeper cabs have many of these built-ins, plus beds or bunks that can make a tractor almost literally a home away from home.

There are numerous other benefits. Really to learn the advantages of being a professional driver, or of being in any job in the trucking industry, contact the personnel department of any sizable trucking company. Of course, every State trucking association will provide literature on jobs in the industry; the American Trucking Associations, Inc., in Washington, D.C., will answer questions on trucking.

CAREER DEVELOPMENT IN TRUCKING

The future of jobs in trucking depends on factors influencing the future of the industry itself. Data on the prospects of jobs in trucking and the future of the industry were obtained from the *Occupational Outlook Handbook*[15] and *American Trucking in 1980.*[16] Table 1 shows five occupations, representative of the industry, and their overall growth predictions. (*See page 20*).

LONG-DISTANCE DRIVERS

According to the *Occupational Outlook Handbook*, there were 540,000 long-distance drivers employed throughout the United States in 1974. Some of them were women. Continual growth in the volume of intercity freight is anticipated, as a result of increased commercial and industrial activity and the continued decentralization of industry. Employment in this occupation is expected to increase throughout the mid-1980's. Anticipated job openings will be created by transfers from this industry to another, or by transfers from long-distance to local or city truck driving positions. In addition, as a result of retirements and deaths, job openings are expected each year. The number may be increased somewhat by the trend toward earlier retirements.

Freight carried by over-the-road trucks will increase as the general economic growth of the Nation continues. Many factories, warehouses, and stores are being located at great distances from each other in suburban or semirural areas where rail facilities are extremely limited or nonexistent. The intercity highway building program has aided the trucking industry in this regard. Furthermore, the growth of chain-stores and the trend to smaller inventories and decentralization of factories require daily coordination of shipping that can best be handled by trucks.

Improvements in trailer design have also contributed to more over-the-road trucking. Better engineering has made it possible to ship certain kinds of freight, such as frozen foods and livestock, over longer distances.

Demand for trucking services may increase as new trucking methods promise reduced handling and shipping time and, therefore, reduce freight costs for small loads. One example is the increasing use of double bottom—two trailers hitched in tandem to a tractor. When the two trailers are brought in off the road from a long haul, they can be unhitched at the truck terminal and promptly hitched to two city tractors. The freight is then delivered to the customers, thus eliminating the need to unpack a larger trailer, separate its contents, and repack on local delivery trucks. Handling time, too, is being reduced by having all freight destined for a single customer or area packed into large containers, or cargo cages, which can be handled at the truck terminal more conveniently and quickly than individual packages.

State limitations on truck weight, size, and speed are becoming less restrictive as a result of the construction of better highways, and improved travel arteries inside the

[15] *Occupation l Outlook Handbook* (Washington: U.S. Department of Labor, Bureau of Labor Statistics, 1976).
[16] *American Trucking in 1980* (Washington: American Trucking Associations, Inc., Department of Research and Transport Economics, 1968).

cities. The total volume of goods shipped and the convenience and mobility of motor transport are expected to be great enough to insure continued growth of driver employment.

The over-the-road driver has a better chance of remaining employed during business recessions than workers in many other industries. Although the total tonnage moved may temporarily decline, over-the-road trucking is less affected than other transportation means. It has a larger share of any shrinking transportation business because manufacturers and merchants who are unable to buy merchandise in railroad carload lots can reduce inventories and still maintain their diversified stock by small daily shipments by truck.

LOCAL DRIVERS

Approximately 1.6 million workers were employed as local truck drivers in 1974, mostly in and around large metropolitan areas. They work in all localities, including the smallest villages.

A majority of local drivers work for businesses that deliver their own products and goods, such as department stores, meatpackers and other food processors, wholesale distributors, grocery chains, petroleum companies, and construction companies. Many others are employed by local for-hire operators (trucking companies that serve the general public or specific companies under contract). Some are employed by the Federal Government, particularly the Post Office Department, by State governments, and by municipalities. Numbers of drivers are in business for themselves.

A moderate increase in the employment of local truck drivers is anticipated through the mid-1980's because of the expected increase in volume of freight. Many new workers also will be needed to replace drivers who leave the field of work, as part of the normal attrition.

The rise of total business activity anticipated in the years ahead will increase the volume of freight. Because trucks carry virtually all freight for local distribution and do not compete for hauling with other types of carriers, this anticipated increase in total intercity and local freight volume will expand local trucking business and, thereby, truck driver employment. The continued growth of suburban areas will contribute to the employment of more drivers.

MECHANICS, DIESEL AND TRUCK

An estimated 95,000 persons were employed in 1974 to repair and maintain diesel engines that power transportation equipment such as heavy trucks, buses, boats, locomotives, construction equipment, and farm tractors. Many persons work for dealers and distributors of trucks, construction equipment, farm equipment, and diesel engines. Others work for trucking companies, buslines, construction firms, and government agencies such as State highway departments.

Employment of diesel mechanics is expected to increase very rapidly through the mid-1980's. In addition, many jobs will reopen because of replacement needs through promotions, retirements, transfers to other fields of work and deaths.

Most industries using deisel engines in large numbers are expected to expand their activities in the years ahead. Diesel engines will continue to replace gasoline engines in a growing variety of equipment. For example, the small delivery trucks powered by diesel engines in limited use today will probably be used increasingly in the future.

A large proportion of the estimated 135,000 truck mechanics employed in 1974 worked for firms that own fleets of trucks. Fleet owners include trucking companies and establishments, such as dairies, bakeries, and construction companies, that haul their own products. Other employers of truck mechanics include truck dealers, truck manufacturers, independent truck repair shops, Federal, State, and local governments.

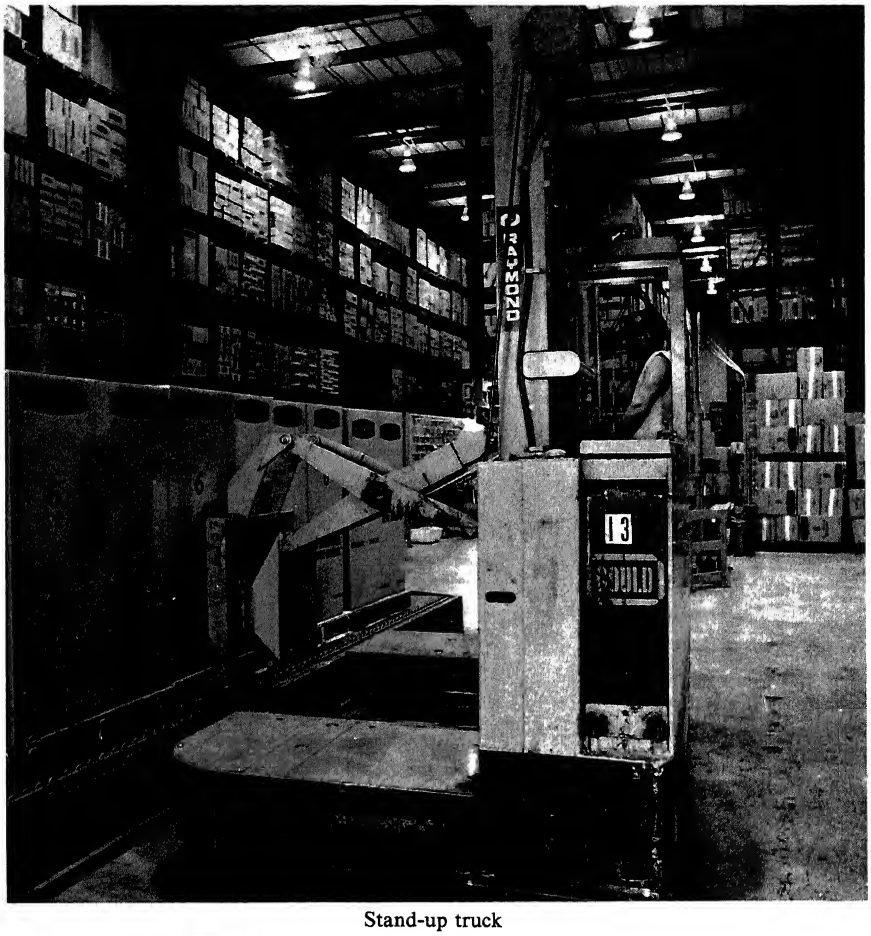
Employment of truck mechanics is expected to increase through the mid-1980's as a result of significant increases in the transportation of freight by trucks. More trucks will be needed for both local and intercity hauling because of increased industrial activity, continued decentrali-

zation of industry, and the continued movement of the population to the suburbs. In addition to the job openings occurring from employment growth, annual deaths and retirements will occasion several hundred openings. Opportunities to enter this occupation will also occur as some mechanics transfer to other lines of work.

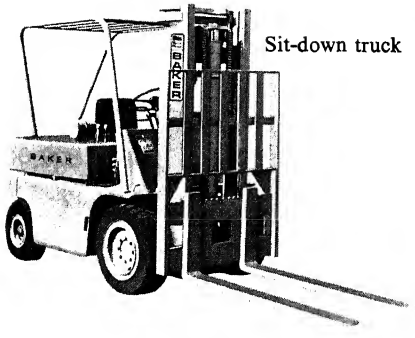
POWER OR FORK-LIFT-TRUCK OPERATOR

In 1974, more than 350,000 power truck operators were employed in plants throughout the country. They are found in all types of manufacturing industries.

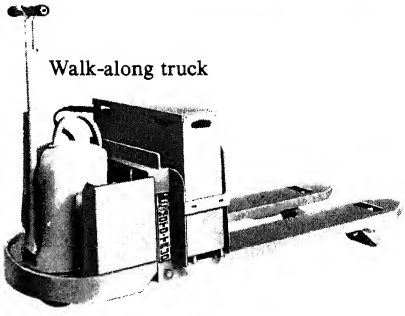
Many are in metal-working plants that manufacture items such as automobiles and automobile parts, machinery, fabricated metal products, and iron and steel. Fork-lift-truck operators are also employed in companies that manufacture food products, beverages, drugs, chemicals, paper and plastic products, furniture, carpet, and electrical and electronic products. Large



Stand-up truck



Sit-down truck



Walk-along truck

Here are the three basic material handling trucks found in trucking companies and warehouses: Sit-down, stand-up, and walk-along. They may be powered by gasoline, liquid petroleum (LP gas), or electric. Both MATERIAL HANDLERS and INDUSTRIAL TRUCK OPERATORS use this equipment in their jobs.

numbers of power truck operators are needed in warehouses, depots, dock terminals, mines, and other places where quantities of material must be moved (see photos).

A moderate increase in the employment of power truck or fork-lift-truck operators is expected through the mid-1980's. Many job openings will be replacements of workers who retire, die, or transfer to other jobs. Based on the facts of the Nation's growing population and economy, it is anticipated that most industries employing these workers will have a long-range upward trend in employment. Moreover, the increasing use of containers and pallets for moving goods will increase the need for power truck operators. The favorable effects of these factors on employment, however, will be partially offset by the continued development of more efficient power trucks and other mechanized material-handling equipment.

UNION MEMBERSHIP

Most long-distance truck drivers are members of the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (Ind.), as are many local truck drivers. In some instances, long-distance and local truck drivers who work for companies outside of the trucking industry are members of unions representing the plant employees of the firms employing them.

CONCLUSION

A significant rise or fall in any particular job classification in trucking would influence other jobs toward the same direction.

The truck mechanic is the one possible exception to this generalization. As suggested in the prospects for diesel mechanics, industry is rapidly switching from gas-driven units to diesel. At present, most mechanics in the trucking industry are general mechanics who work on both gas and diesel engines as required. As existing gas-powered fleets are gradually replaced by diesel, the mechanic will gradually be trained in the shop or at trade school to service diesel-powered units.

Generally, current projections indicate that the gross national product (GNP) will reach one trillion, $284.5 billion (1958 dollars) in 1985, as compared to $792 billion in 1972.[17] The trucking industry, reflecting the rate of GNP, will probably respond to economic growth by plant expansion and improvement of services.

Much of today's economy is geared to highway transportation; it appears that this trend will continue for some time to come. In the past 10 years more than 100 billion dollars were spent in establishing the most extensive and modern highway system in the world. Twice that amount may be spent in the next decade in simply keeping pace with national expansion.

[17] "Revised BLS Projections to 1980 and 1985: an Overview," *Monthly Labor Review*, March, August, November 1976.

TABLE 1. REPRESENTATIVE TRUCKING INDUSTRY OCCUPATIONS AND THEIR GROWTH RATES

Occupational title	Estimated workers employed in 1974 [1]	Overall growth predictions through the mid-1980s
Long-distance truck driver	540,000	Moderate
Local truck driver	1,600,000	Moderate
Diesel mechanic	95,000	Rapid
Truck mechanic	135,000	Rapid
Fork lift truck operator	300,000	Moderate

[1] *Occupational Outlook Handbook* (Washington: U.S. Department of Labor, Bureau of Labor Statistics, 1976).

THE AMERICAN TRUCKING ASSOCIATIONS, INC.

American Trucking Associations, Inc., represents 51 autonomous State trucking associations composed of all classes and types of truck operation, and 13 autonomous conferences, each representing a special class or type of truck operation.

The State trucking associations (affiliated with the American Trucking Associations, Inc.) listed below may provide further information on job opportunities in trucking to interested persons. Additional information can be obtained by contacting local trucking companies to determine their individual requirements and openings.

ALABAMA TRUCKING ASSN., INC.
Association Bldg. on Capitol Hill
Montgomery, Alabama 36104

ALASKA CARRIERS ASSN., INC.
327 Barrow Street
Anchorage, Alaska 99501

ARIZONA MOTOR TRANSPORT ASSN., INC.
2111 West McDowell Road
Phoenix, Arizona 85009

ARKANSAS BUS & TRUCK ASSN., INC.
P.O. Box 2798
Little Rock, Arkansas 72203

CALIFORNIA TRUCKING ASSN.
1240 Bayshore Highway
Burlingame, California 94010

COLORADO MOTOR CARRIERS' ASSN.
4060 Elati Street
Denver, Colorado 80216

MOTOR TRANSPORT ASSN. OF CONNECTICUT, INC.
508 Tolland Street
East Hartford, Connecticut 06108

DELAWARE MOTOR TRANSPORT ASSN., INC.
P.O. Box 343
Dover, Delaware 19901

WASHINGTON, D.C. AREA TRUCKING ASSN.
1616 "P" Street, N.W.
Washington, D.C. 20036

FLORIDA TRUCKING ASSN., INC.
704 Gilmore Street
Jacksonville, Florida 32204

GEORGIA MOTOR TRUCKING ASSN., INC.
500 Piedmont Avenue, N.E.
Atlanta, Georgia 30308

HAWAII TRUCKING ASSOCIATION, INC.
911 Middle Street, P.O. Box 3106
Honolulu, Hawaii 96810

IDAHO MOTOR TRANSPORT ASSN., INC.
P.O. Box 550
Boise, Idaho 83701

CENTRAL MOTOR FREIGHT ASSN., INC., OF ILLINOIS
15 Spinning Wheel Road
Hinsdale, Illinois 60521

INDIANA MOTOR TRUCK ASSN., INC.
2165 South High School Road
Indianapolis, Indiana 46241

IOWA MOTOR TRUCK ASSN.
1533 Linden
Des Moines, Iowa 50309

KANSAS MOTOR CARRIERS ASSN.
P.O. Box 1673
Topeka, Kansas 66601

KENTUCKY MOTOR TRANSPORT ASSN., INC.
Suite 339-340, Kentucky Hotel
Louisville, Kentucky 40202

LOUISIANA MOTOR TRANSPORT ASSN., INC.
P.O. Box 1326
Baton Rouge, Louisiana 70821

MAINE TRUCK OWNERS ASSN.
615 Congress Street
Portland, Maine 04101

MARYLAND MOTOR TRUCK ASSN., INC.
3000 Washington Boulevard
Baltimore, Maryland 21230

MASSACHUSETTS MOTOR TRUCK ASSN., INC.
262 Washington Street
Boston, Massachusetts 02108

MICHIGAN TRUCKING ASSN., INC.
440 Stoddard Building
Lansing, Michigan 48933

MINNESOTA MOTOR TRANSPORT ASSN.
1821 University Avenue
St. Paul, Minnesota 55104

MISSISSIPPI TRUCKING ASSN.
Suite 105 & 106 Sterling Towers
Jackson, Mississippi 39202

MISSOURI BUS & TRUCK ASSN.
628 Jefferson Street
Jefferson City, Missouri 65101

MONTANA MOTOR TRANSPORT ASSN., INC.
912 Wyoming
Billings, Montana 59102

NEBRASKA MOTOR CARRIERS ASSN.
521 South 14th Street, Suite 101
Lincoln, Nebraska 68508

NEVADA MOTOR TRANSPORT ASSN., INC.
P.O. Box 7415
Reno, Nevada 89502

MOTOR TRANSPORT ASSN. OF NEW HAMPSHIRE
131 Middle Street
Manchester, New Hampshire 03105

NEW JERSEY MOTOR TRUCK ASSN.
160 Tice Lane, P.O. Box 160
East Brunswick, New Jersey 08816

NEW MEXICO MOTOR CARRIERS ASSN.
P.O. Box 789
Albuquerque, New Mexico 87103

NEW YORK STATE MOTOR TRUCK ASSN.
111 Fourth Avenue
New York, New York 10003

NORTH CAROLINA MOTOR CARRIERS ASSN., INC.
P.O. Box 2977
Raleigh, North Carolina 27602

NORTH DAKOTA MOTOR CARRIERS ASSN., INC.
P.O. Box 874
Bismarck, North Dakota 58502

OHIO TRUCKING ASSOCIATION
Neil House Hotel
Columbus, Ohio 43215

ASSOCIATED MOTOR CARRIERS OF OKLAHOMA, INC.
P.O. Box 983
Oklahoma City, Oklahoma 73101

OREGON TRUCKING ASSOCIATION
2153 S. W. Main Street
Portland, Oregon 97205

PENNSYLVANIA MOTOR TRUCK ASSN.
Telegraph Building, 216 Locust St.
Harrisburg, Pennsylvania 17101

RHODE ISLAND TRUCK OWNERS ASSN., INC.
49 Weybosset Street
Providence, Rhode Island 02903

MOTOR TRANSPORTATION ASSN. OF SOUTH CAROLINA, INC.
2425 Devine Street
Columbia, South Carolina 29205

ASSOCIATED MOTOR CARRIERS, INC., OF SOUTH DAKOTA
100 North Phillips Avenue,
Room 401
Sioux Falls, South Dakota 57101

TENNESSEE MOTOR TRANSPORT ASSN.
228 Capitol Boulevard
Nashville, Tennessee 37219

TEXAS MOTOR TRANSPORTATION ASSN., INC.
P.O. Box 1669
Austin, Texas 78767

UTAH MOTOR TRANSPORT ASSN.
P.O. Box 686
Salt Lake City, Utah 84110

VERMONT TRUCK & BUS ASSN.
P.O. Box 690
Montpelier, Vermont 05602

VIRGINIA HIGHWAY USERS ASSN.
P.O. Box 1397
Richmond, Virginia 23211

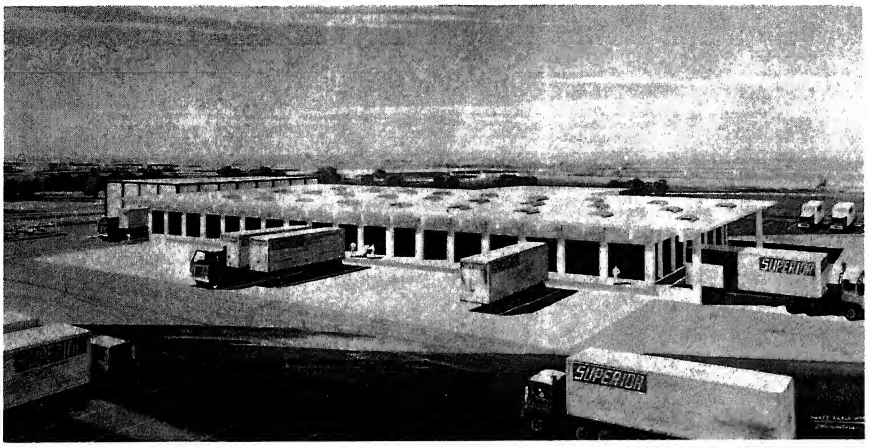
WASHINGTON TRUCKING ASSN., INC.
4101 — 4th Avenue, South
Seattle, Washington 98134

WEST VIRGINIA MOTOR TRUCK ASSN., INC.
P.O. Box 4416
Charleston, West Virginia 25304

WISCONSIN MOTOR CARRIERS ASSN.
125 West Doty Street
Madison, Wisconsin 53703

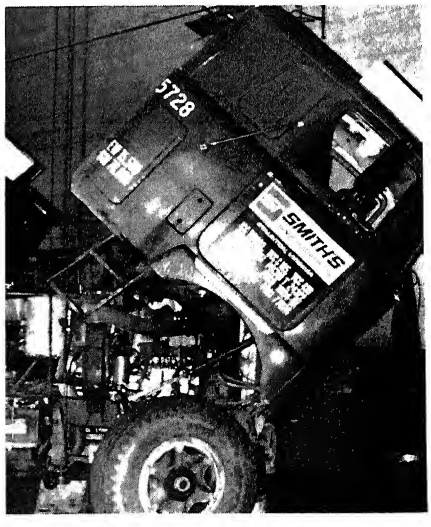
WYOMING TRUCKING ASSN., INC.
P.O. Box 1889
Casper, Wyoming 82601

A PHOTOGRAPHIC TOUR:
ACTIVITIES IN A TYPICAL COMMON CARRIER TERMINAL

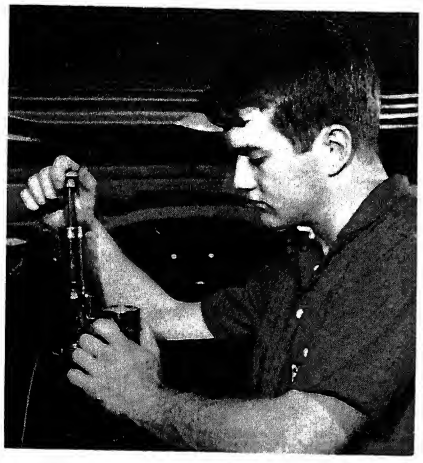


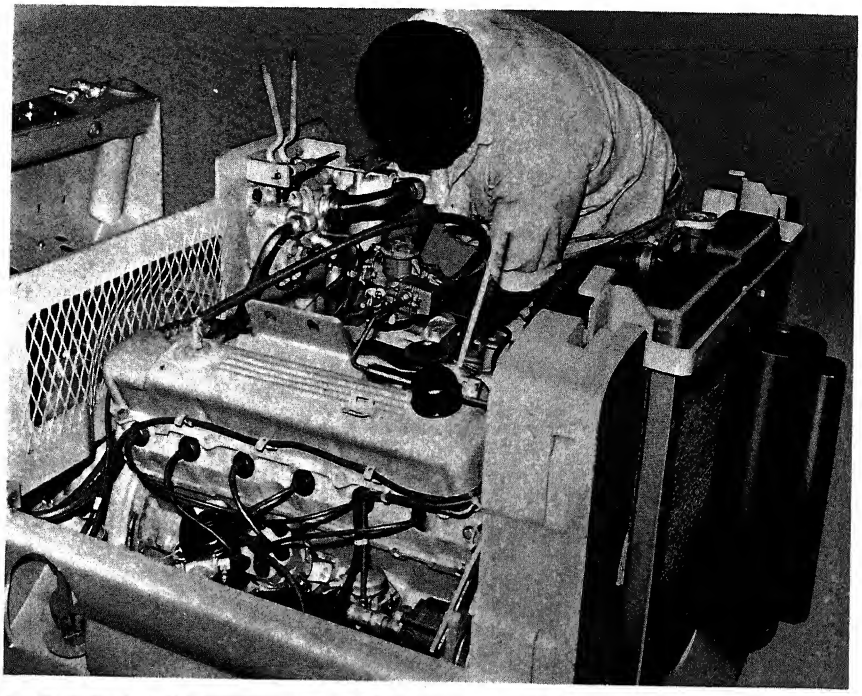
Freight has many points of origin and customers include manufacturers, wholesalers, and processors. Freight is also brought from the company's own branch terminals and by other trucking companies known as interline carriers. This is a typical terminal where all trucks coming in stop at the fuel lane first to refuel, have oil checked, and windows cleaned.

After the tractor has been serviced it is driven by a Yard Spotter to the dock area. The Yard Spotter backs the trailer into the unloading door and disconnects the tractor from the trailer.

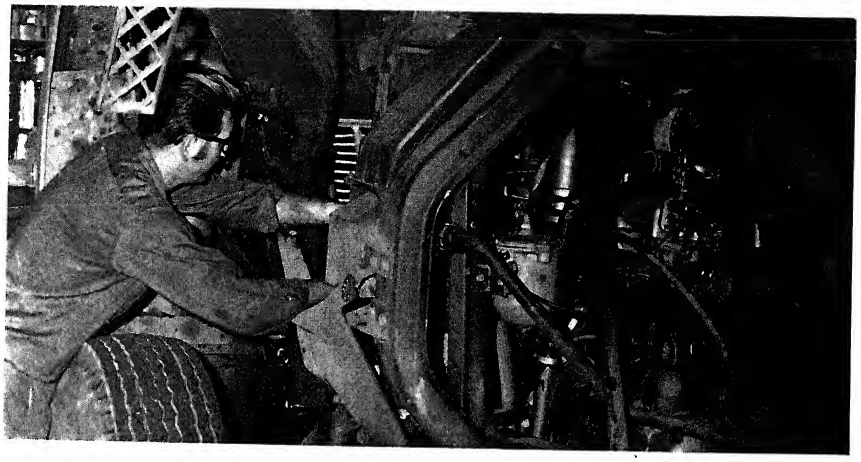


The tractor unit is parked on the lot or hooked up immediately to another trailer and leaves the terminal, or may be taken to the terminal garage for a routine maintenance inspection or major repair.



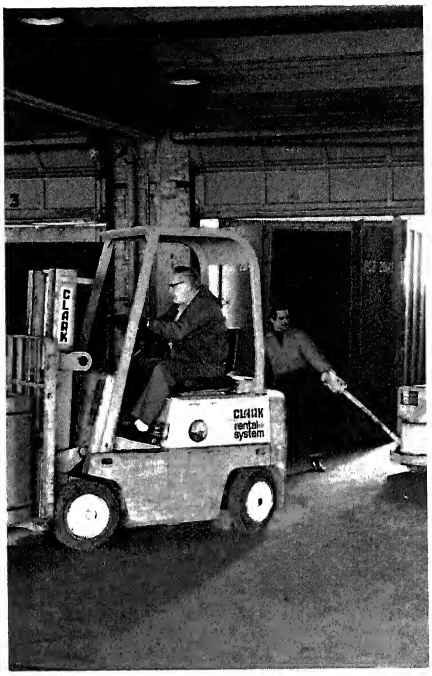


Inside the garage, mechanics have a variety of tasks. Here workers are shown checking a truck radiator for leaks (upper left); repairing a fork-lift truck (upper right); welding (lower left); and making adjustments to a cab-over-engine or tilt cab truck (lower right).



As the trailer is unloaded freight is put on four-wheel carts that are part of an automatic drag line system. The worker programs the cart by positioning spikes or pins on the front of the cart to coordinate with preselected loading doors. When the cart arrives at the designated loading door (usually on the opposite side of the dock), the pin activates a control that automatically switches that cart off the drag line to that specific loading door.

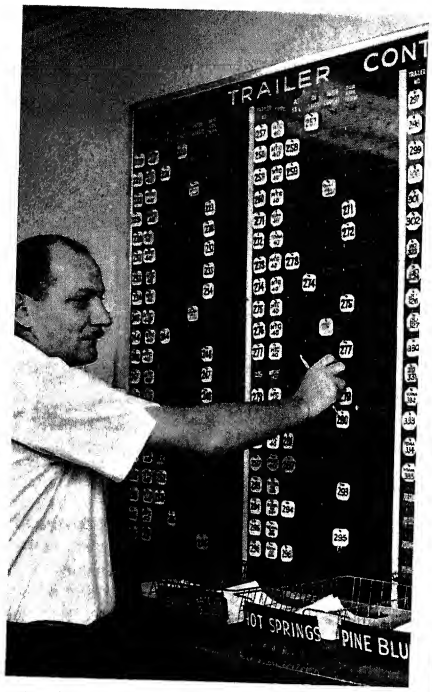
A Material Handler removes the freight from the cart and carefully stacks it in the trailer. The stacker must be aware of how much weight is being placed on each axle, and how the weight is distributed so that the trailer will not be top-heavy and overturn.



Freight that is too heavy for one or two workers to lift manually, will usually be picked up by a fork lift truck and taken directly to the outbound trailer.

For small local deliveries a trucking company may use a stake truck or compact delivery truck for maneuverability in congested city streets.

During the loading and unloading process, clerical workers in the terminal office prepare the necessary paperwork. This usually includes receiving bills of lading from the dock. These bills are used by the Rate Clerk who assigns a specific rate to each class of freight. The Billing Clerk then types a freight bill, and the Manifest Clerk prepares the truck manifest sheet.

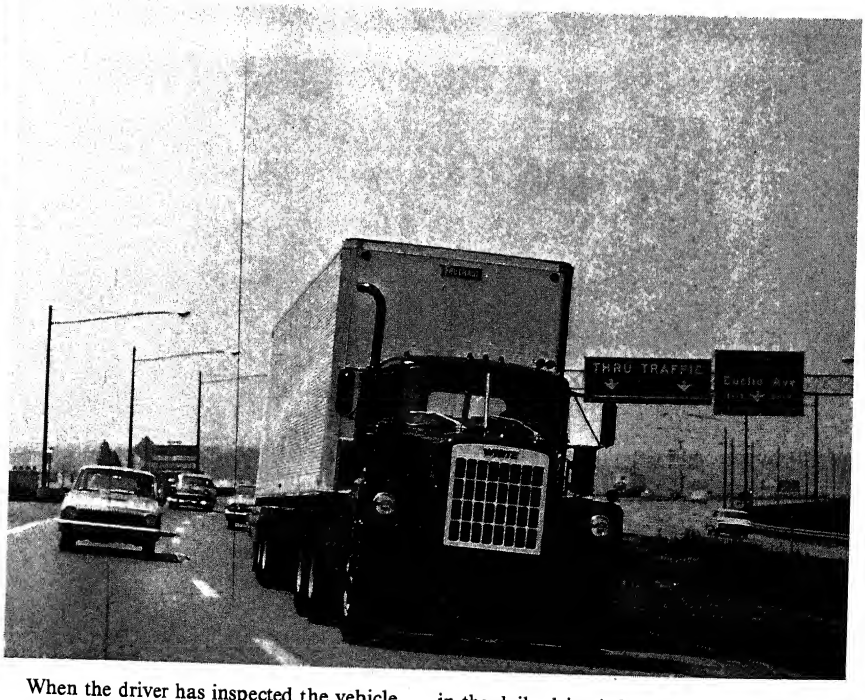


While the clerical group handles the paperwork, the Dispatcher, Motor Vehicle, coordinates drivers, trucks, and deliveries. Here the Dispatcher, Motor Vehicle, works the control board which indicates what equipment is in use and where it is located.

All trucking companies rely heavily on communications. Telephone service links the company to shippers, consignees, and other trucking companies working with this company to transport freight (interline carriers) and, most importantly, to the company's other branch terminals. Complex telephone equipment like this is necessary to keep the freight moving efficiently.

A number of terminals are now using electronic data processing equipment. They may be tied into a central computer that stores the data of day-to-day operations. Each year more trucking companies are using computers to schedule freight, to trace the whereabouts of freight and rolling stock, to do billing, to project trends in traffic movement, to solve problems, to do accounting, and to handle payrolls. Information on jobs that use computers may be found in *Occupations in Electronic Computing Systems*, published by the U.S. Department of Labor, Employment and Training Administration.

Once freight has been loaded into a trailer, the doors are sealed. The Dispatcher, Motor Vehicle, notifies the driver (who may be sleeping in a private room at the trucking terminal's dormitory) that the truck is ready. The driver then reports to the Dispatcher, Motor Vehicle, and picks up the packet of waybills and manifest. Drivers are required to make a visual inspection of their tractor and trailer rig and to fill in their daily log, prior to leaving the terminal.



When the driver has inspected the vehicle (tire pressure, brakes, lights, etc.) and has filled in the daily driver's log, it's away to the open highway!

OCCUPATIONAL DESCRIPTIONS

The occupational descriptions are arranged alphabetically according to their titles. In general, the title that appears at the head of each description reflects common usage. Below this title is the code number which identifies the job within the classification structure of the *Dictionary of Occupational Titles*.[18] Additional or alternate titles by which the occupation is also known appear in small letters immediately above most descriptions.

The outline of each occupational description is as follows:

OCCUPATIONAL STATEMENT

A brief description of what the worker does on the job. It provides an understanding of the tasks performed and the skills and knowledge necessary to perform them.

EDUCATION, TRAINING AND EXPERIENCE

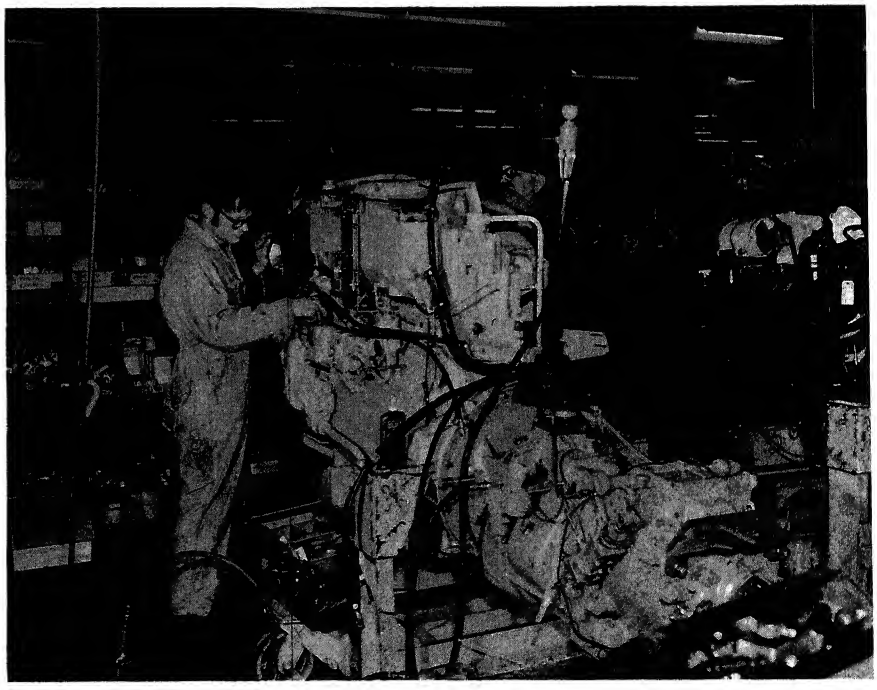
An indication of the education and level of training and experience usually required for employment in the occupation. Variations exist among employers as to educational requirements, training, and experience.

WORKER TRAITS

Estimates of those abilities and personal traits which the worker should possess in order to perform successfully the duties of the particular job. The Appendix lists definitions of each component and its factors.

[18] *Dictionary of Occupational Titles* (4th ed.; Washington: U.S. Department of Labor, Employment and Training Administration, in process).

Automotive-mechanic apprentice.



AUTOMOBILE MECHANIC APPRENTICE (auto. ser.) 620.261-012

automobile-and-truck-mechanic apprentice

OCCUPATIONAL STATEMENT

Receives instructions, performs on-the-job duties, and pursues related classroom studies as prescribed by applicable apprenticeship standards for learning the trade of TRUCK MECHANIC.

EDUCATION, TRAINING, AND EXPERIENCE: APPRENTICESHIP TRAINING

Labor and management generally adopt certain standards for an apprenticeship program. These standards are recommended by the Bureau of Apprenticeship and Training, U.S. Department of Labor. Although apprenticeship standards may vary from one area to another, the following outlines a typical apprenticeship program:

1. Applicants for apprenticeship must be at least 18 and not more than 30 years of age. Exceptions may be made for veterans and those who are or have been engaged in the trade.
2. Term of apprenticeship shall not be less than 8,000 hours. When the apprentice has had previous experience, a committee may evaluate such experience and recommend a credit toward the completion of the apprenticeship.
3. All apprentices employed in accordance with the standards shall be subject to a tryout, or probationary period of 1,000 hours of employment.
4. Work experience for truck mechanic apprentices generally includes the following approximate hours:

Chassis and springs,	800
Front axle and steering,	1,000
Rear wheel and axle assembly,	1,000
Transmission and clutch	1,000
Motor,	2,000
Brakes,	600
Tune-up, including carburetion and ignition, electrical, cooling, fuel pump, and air conditioning,	1,600
Review and miscellaneous, not to exceed 25 percent of the number of hours worked during any quarter.	
Total	8,000 hours

5. In compliance with the apprenticeship standards, each apprentice shall enroll in an approved school and regularly attend, for at least 144 hours a year, the classes provided for his instruction in subjects related to his trade.
6. Other standards deal with such items as wages, examinations, and general procedures.

Despite varying standards of apprenticeship, the basic requirements for apprenticeship are usually (1) a high school diploma or a State-approved certificate of equivalency which may be obtained by completing the general education development tests (see p. 13); (2) that applicant be not less than 18 and not more than 30 years of age.

The primary purpose of the apprenticeship program is to train the apprentice to become a competent, skilled worker or Mechanic through on-the-job training and classroom instruction.

Prior to becoming an apprentice, an applicant might gain helpful experience in a gasoline service station, in the military service, or by working on automobiles or trucks as a hobby.

WORKER TRAITS

Aptitudes

Verbal ability is required to understand oral instructions, to read and interpret work orders, service manuals, and text material when attending class instructions. Numerical ability is necessary to measure with and read micrometers, calipers, and thickness gages; and to select proper size, grade, or type of product following specifications for make and model of trucks. Spatial aptitude is required to read schematics and diagrams in service and training manuals in order to disassemble and assemble automotive vehicles; to visualize actual assemblies from such material; and to recognize spatial relationships of parts during repair of automotive vehicles. Form perception is needed to identify vehicle component parts. Motor coordination is essential when using hand and power tools to disassemble and assemble automotive vehicles. Manual dexterity or turning movement of hands is required when using tools to disassemble or assemble automotive vehicle and parts.

Interests

Apprentice truck mechanics should have a preference for working with objects when repairing automotive vehicles. The worker should prefer activities related to techniques with machines.

Temperaments

The apprentice should be able to adapt to performance of a variety of duties such as disassembly and assembly of automotive vehicles and their component parts, use of micrometers, calipers, and thickness gages for inspection of wear of parts, limited rebuilding of parts using hand and power tools; rewiring of electrical systems in vehicles; preparation of vehicles for repainting, and participation in classroom instruction. The apprentice will also have to adapt to situations requiring precise attainment of set limits, tolerances, and standards when repairing and adjusting automotive equipment, and when qualifying to become a skilled worker or mechanic.

Physical Demands and Working Conditions

Physical demands and working conditions are generally the same as those described for TRUCK MECHANIC. An apprentice will lift up to 50 pounds and carry up to 25 pounds in automotive parts and tools; stoop, kneel, crouch, and crawl to reach work area under truck; and reach for, handle, and finger tools and parts when disassembling or assembling vehicle equipment. Perfect vision is not a critical factor, but some depth perception is needed to remove and replace automotive components of the vehicle. Work is generally performed inside, in a well-lighted, heated, and ventilated area. There are usual shop hazards such as sustaining cuts and bruises.

For details on an apprenticeship program, an applicant should contact a local trucking firm or labor union. Among the unions representing automobile and truck mechanics are The International Association of Machinists and Aerospace Workers, AFL-CIO; and The International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (Ind.), and others.

BILLING-MACHINE OPERATOR (clerical) 214.482-010

bill clerk; biller; billing clerk; invoicing-machine operator

OCCUPATIONAL STATEMENT

Prepares statements, freight bills, and invoices to be sent to customers, itemizing amount customers owe, using billing machines with or without computing devices: Inserts blank billing sheets in machine and sets carriage. From office records, transcribes data such as customer's name, address, and items purchased or services rendered. Calculates totals, net amounts, and discounts by addition, subtraction, and multiplication, and records computations. May make computations on separate adding and calculating machines. May be required to perform duties of MANIFEST CLERK and/or duties of TRAFFIC-RATE CLERK. May be designated according to type of bill prepared as DELINQUENT-NOTICE MACHINE OPERATOR.

EDUCATION, TRAINING, AND EXPERIENCE

Billing Clerks in the trucking industry are generally required to have a high school diploma or its equivalent (see page 13). Some carriers, however, have no minimum educational requirements as long as the worker can perform the tasks of the job. While still in high school, a student considering this or related jobs, would do well to learn typing skills. The billing machine used in the trucking industry is designed specifically for freight billing, but the operation of the machine is basically the same as a typewriter. Ex-military personnel with typing and office experience gained in the service should have no difficulty in qualifying for this well-paying job.

New workers are given informal on-the-job training for 30 to 60 days by an experienced Billing Clerk. From bills of lading, the new worker learns to prepare company freight bills using a billing machine, with or without computing devices. Although some Billing Clerks in the trucking industry are involved in computation, that duty has become less important to the job in this industry. In smaller trucking companies the new Billing Clerk may be taught to do manifesting and rating in which computation of figures is definitely required. Billing Clerks often become Rate Clerks when looking for better pay and more challenging work.

WORKER TRAITS

Aptitudes

Verbal aptitude is necessary to understand well the meaning of words, numbers, and abbreviations on bills of lading so that in transferring information to company freight bills, incorrect data may be noted. Computation of figures requires numerical aptitude as does verification of totals on freight bills.

Clerical perception is needed to perceive figures accurately when computing and copying data from bills of lading to company freight bills. Motor coordination (eye-finger coordination) is essential to touch-type as the eye follows copy. Finger dexterity is required to depress keys on the billing machine.

Interests

Billing Clerks should prefer work that deals with objects and with job duties that are routine and organized when preparing freight bills. The worker will be required to have business contact with Dispatchers and Rate Clerks. Activities carried on in relation to machines are also required.

Temperaments

A Billing Clerk should be able to adapt to work of a repetitive nature in preparing company freight bills. The worker should be able to deal with people in communicating with Road or City Dispatchers, and Rate Clerks. The new worker should also be able to adapt to precise attainment of set limits and standards when quickly calculating and copying data from bills of lading to company freight bills.

Physical Demands and Working Conditions

Physical demands for this job are rated as sedentary. No significant amount of walking or lifting is necessary. Reaching, handling, and fingering is required to reach for and grasp bills of lading, freight bills, and carriage return on billing machine, and when tearing apart multiple copies of freight bill to file. Normalcy in near visual acuity and accommodation is needed to read bills of lading and freight bills. BILLING-MACHINE OPERATORS work in well-lighted, air-conditioned, and generally modern terminal office buildings, which should provide the worker with above average working conditions.

DISPATCHER, MOTOR VEHICLE
(clerical) 249.167-014

OCCUPATIONAL STATEMENT

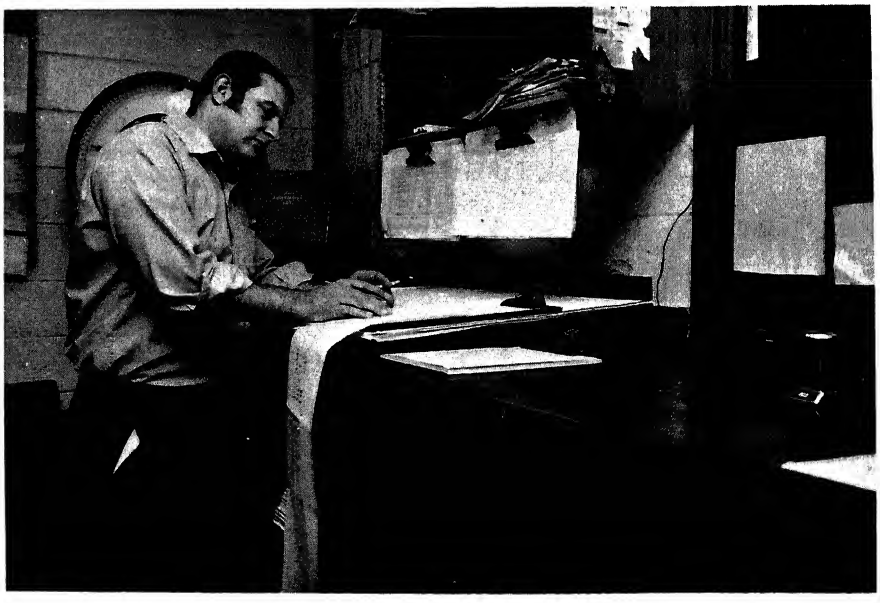
Assigns motor vehicles and drivers for conveyance of freight or passengers: Compiles list of available vehicles. Assigns vehicles according to factors, such as length and purpose of trip, freight or passenger requirements, and preference of user. Issues keys, record sheets, and credentials to drivers. Records time of departure, destination, cargo, and expected time of return. Investigates overdue vehicles. May confer with customers to expedite or locate missing, misrouted, delayed, or damaged merchandise. May maintain record of mileage, fuel used, repairs made, and other expenses. May establish service or delivery routes. May supervise loading and unloading. May issue equipment such as handtrucks, dollies, and blankets to drivers. May direct activities of drivers, using two-way radio. May assign helpers to drivers. May be designated according to type of motor vehicle dispatched, as DISPATCHER, TOW TRUCK (auto. ser.)

EDUCATION, TRAINING, AND EXPERIENCE

As a rule, a high school education or its equivalency (see page 13), is preferred by the trucking industry. This is not a hard and fast rule, however. Depending on the size of the company and the amount of responsibility given to the dispatcher, some trucking companies require a high school education while others do not. Promotion possibilities are much better for those who have completed high school.

The worker must have a minimum of one year's job experience to become a dispatcher. Experience with a trucking company may consist of working as a dock worker, driver, or in a clerical job such as RATE CLERK, FREIGHT; MANIFEST CLERK; OVER-SHORT-AND-DAMAGE CLERK; or actual dispatcher experience with a taxicab company, public transit system, railroad or manufacturer. New workers generally are trained on the job by another dispatcher, or chief dispatcher, for 30 days. The worker can be trained as a "Road Dispatcher" (one who handles "Over-The-Road Truck Drivers" and freight), but would usually first be trained as a "City Dispatcher" (one who deals with only "City Truck Drivers" as well as the local pickup and delivery of freight).

Dispatcher, motor vehicle.



WORKER TRAITS

Aptitudes

Workers must have good verbal ability to read and understand the laws, the regulations of the Interstate Commerce Commission, union rules, and company policies; to communicate instructions to drivers effectively; and to write reports. Numerical aptitude is necessary to compute truck capacities for various products, to estimate delivery time, to compute delivery charges, and to prepare statistical reports and studies on operations, equipment, and personnel. Clerical perception is required to compute accurately truck capacities for various products, to estimate delivery time and charges; to prepare statistical reports on operations, equipment or personnel; to post data accurately; and to file vouchers, cargo manifests, and other items according to alphabetic and numerical systems.

Interests

Workers performing this job should have a preference for activities requiring business contact with people—giving keys and manifest sheet and assigning a vehicle to a driver and dealing with customers over the phone.

Temperaments

Dispatcher must be able to plan, direct, and control the activities of drivers, when assigning them to specific vehicles, routes to be driven, and customers to be serviced. The worker should be able to deal with people beyond telephone contact with customers. Adaptability to performing under stress is required of a dispatcher owing to the pressure of meeting delivery schedules, and dealing with customers and drivers by telephone. Worker should be able to make decisions based on knowledge gained by experience, when assigning vehicles.

Physical Demands and Working Conditions

Dispatcher duties make no unusual physical demands upon the worker. Standing, walking in a relatively confined area, talking and seeing are generally the only physical activities involved. Strength requirements may vary from sedentary to light. Workers should be able to use hands and fingers to reach for and dial the telephone; to use other forms of communications equipment such as the teletype machine, typewriter, and two-way radio unit, and handle papers. Near visual acuity and accommodation is needed to make up driver and freight schedules, to orginate and read out typewritten and teletyped communications. Working conditions of both "Road Dispatchers" and "City Dispatchers" are generally thought to be satisfactory. The only disadvantages of this job seem to be the stress of working under pressure to meet delivery schedules, and constantly handling phone calls from customers and drivers.

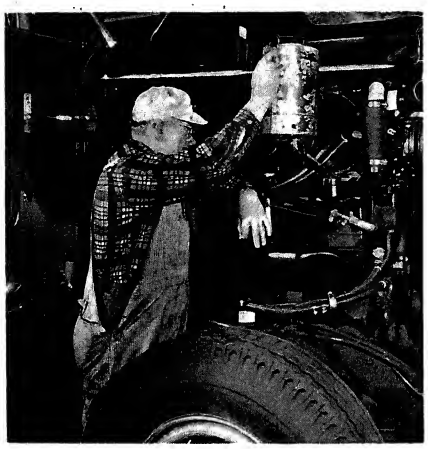
GAS-AND-OIL SERVICER

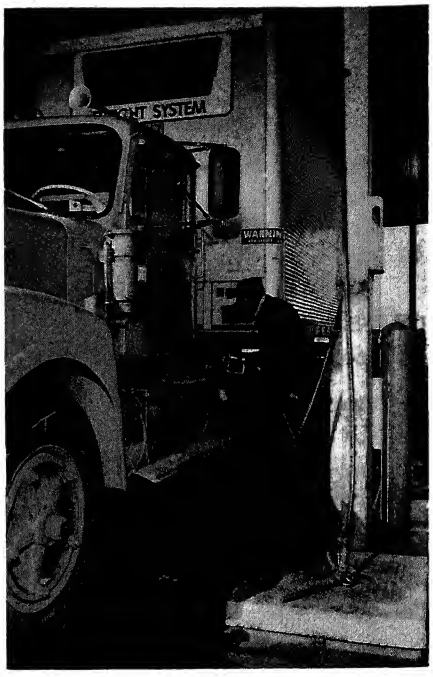
(motor trans.) 915.587-010

gas-and-oil checker

OCCUPATIONAL STATEMENT

Refuels and oils motor vehicles, such as trucks, buses, automobiles, and industrial fork-lift trucks in company garage. Compiles mileage records, fuel consumption log, and storage tank inventory. May inspect and refill water in vehicle radiator, and wash windows. Transports materials, such as filled and empty oil drums, using fork-lift.





Gas-and-oil servicers.

EDUCATION, TRAINING, AND EXPERIENCE

Education requirements for this job may vary from no minimum to completion of the eighth grade. Completion of high school or its equivalency (see p. 13), however, will allow the worker to advance to more responsible jobs.

On-the-job training usually consists of short demonstrations by an experienced servicer. Included are such factors as refueling of motor vehicles, checking, and refilling of engine's oil supply, recording consumption figures in daily logs, and use of depth gage to measure underground storage tanks; becoming familiar with specific levels of fuel, motor oil, and water required by different makes and models of tractors.

WORKER TRAITS

Aptitudes

Numerical ability is required to record fuel and oil consumption in gasoline and diesel-powered tractors in company daily logs; to measure inventory of fuel and oil in storage tanks using meters, gages, and depth sticks; and to record daily mileage of vehicles. Clerical perception is required to read meters on fuel and oil pumps to record total volume used, and to perceive figures accurately when reading measuring gages. Manual dexterity is required to manipulate hose while pumping gasoline or diesel fuel, cleaning windows of tractors, and when using depth gage to measure storage tanks.

Interests

A servicer should have a preference for dealing with objects; for routine and organized activities; and for work related to machines when refueling motor vehicles.

Temperaments

The worker should be capable of making judgments based on measured or verifiable criteria. The worker should also have a preference for performing repetitive work, when refueling motor vehicles.

Physical Demands and Working Conditions

Physical demands for this job range between light and medium—lifting hoods of tractors to inspect and replenish tractor engine with water and oil, and lifting fuel pump hose to refuel tractor fuel tanks. Reaching and handling is required to reach, grasp, and guide fuel hose nozzle into vehicle fuel tank, and to open hood of tractor. In this job the worker is outside most of the time, subject to temperature changes

and inclement weather. An advantage of the job is the lack of stress or pressure because it is away from the main flow of production. A hazard does exist when handling highly flammable liquids.

HOSTLER (motor trans.)
909.663-010

hookup driver; yard spotter

OCCUPATIONAL STATEMENT

Drives trucks or tractors to and from service department and around dock area for motor freight transportation company. Spots (positions) loaded and unloaded trailers at assigned dock space for unloading or loading, using tractor. Connects loaded semitrailers to tractor for TRACTOR-TRAILER-TRUCK DRIVER; and TRUCK DRIVER, HEAVY. May service trucks and tractors (GAS-AND-OIL SERVICER). May weigh loaded tractor-trailer rig on yard scale to record axle weight and gross weight of rig for compliance with U.S. Department of Transportation regulations.

EDUCATION, TRAINING, AND EXPERIENCE

Educational requirements for this job are generally the same as for the City Driver, and vary from no minimum to a maximum of a high school diploma, or its equivalency (see page 13). Driver's education courses in high school or truck driver's training at an accredited truck driver's school would be an advantage in obtaining this job.

On-the-job training usually consists of working with an experienced Yard Spotter for a week to 10 days to learn the method of operation. Inexperienced HOSTLERS may gain related work experience by driving small trucks on the farm or in the city, as a driver in the military, or as a dock worker who drives trucks occasionally. In some areas, company and union policies allow dock workers to spot trucks as part of their regular duties. Some City Drivers prefer to work as Yard Spotters rather than to drive in city traffic.

The HOSTLER, using tractor, positions loaded and unloaded trailers at assigned dock space for unloading and loading.

Spotters are generally required to have their chauffeur's license. Workers employed by interstate carriers must qualify as drivers under U.S. Department of Transportation regulations.

WORKER TRAITS

Aptitudes

To operate a tractor-trailer rig on a trucking terminal parking lot requires spatial ability such as judging clearances accurately while driving around corners or between other parked vehicles and when backing tractor and trailer unit into loading platform. Motor coordination, manual dexterity, and eye, hand, and foot coordination are required to operate controls to drive and park tractor-trailer unit, and to connect and disconnect tractor-trailer units and the necessary air hoses and electric cables.

Interests

A preference for working with machines is required to drive tractor-trailer rigs to and from the loading and unloading docks. The worker should have a preference for routine, concrete, organized activities; the duties of this job usually are not varied. Some terminals may require the Yard Spotter to refuel and/or weigh tractor and trailer rigs, but again these duties are of a routine nature.

Temperaments

Workers in this category should be able to make judgments based on verifiable or measurable criteria in locating dock areas and spotting vehicles in assigned spaces. Workers should be able to perform repetitive work when continually spotting trailers to and from the dock area.

Physical Demands and Working Conditions:

Physical demands of this job range from light to medium. The worker usually spends most working hours climbing in and out of tractors, driving tractors to and from the dock area, parking and disconnecting trailers on the parking lot and, at some terminals, refueling tractors. Both hand-arm and foot-leg motions are necessary to operate tractor and trailer rig. Normalcy in vision such as far acuity, near acuity, depth perception, field of vision, and accommodation are required to operate the vehicle safely, to judge distance and to avoid accidents in and around the terminal yards. Most terminals use City Drivers to perform this job. Between the two jobs, City Driver and HOSTLER, the latter is usually thought of as a premium job; therefore, where unions exist, workers with seniority must bid for it. Most drivers prefer this job to city driving because it is not as mentally and physically strenuous. The HOSTLER or Yard Spotter usually works an 8-hour day, and can work overtime without being restricted by ICC regulations.

INDUSTRIAL-TRUCK OPERATOR (any ind.) 921.683-050

OCCUPATIONAL STATEMENT

Drives gasoline, liquified gas, or electric-powered industrial truck or tractor, equipped with fork-lift, boom, scoop, lift beam and swivel hook, fork grapple, clamps, elevating platform, or trailer hitch, to push, pull, lift, stack, tier, or move products, equipment, or bulk materials in delivery trucks at trucking terminal, factory, warehouse, or storage yard: Moves levers and depresses pedals to drive truck and to

Industrial-truck operator.

control movement of lifting apparatus. Positions forks, lifting platform, or other lifting device over, around, or under loaded pallets, skids, or boxes, products, or materials, or hooks tow trucks to trailer hitch, and transports load to designated area. Unloads and stacks material by raising and lowering lifting device. May inventory materials on work floor, and supply workers with materials as needed. May weigh materials or products and record weight on tags, labels, or production schedules. May lubricate truck, recharge batteries, fill fuel tank, or replace liquified gas tank.

May be designated by article moved as LEAD LOADER; by process, as STRIPPER TRUCK OPERATOR; or by type of truck operated, as ELECTRIC-TRUCK-CRANE OPERATOR; FORK-LIFT-TRUCK OPERATOR; TIER-LIFT-TRUCK OPERATOR. Additional titles: BURNT LIME DRAWER; CASTING TRUCKER; ELECTRIC-FREIGHT-CAR OPERATOR; ELECTRIC TRUCK OPERATOR; GASOLINE-TRUCK OPERATOR; METAL-STORAGE WORKER; PACKAGE-LIFT OPERATOR.

EDUCATION, TRAINING, AND EXPERIENCE

There is no specific level of education required for this job. Because it can lead to a number of better jobs, however, it would be advisable to complete a high school education or the GED tests to obtain a certificate of high school equivalence (see page 13). Participation in high school driver education courses or training at an accredited truck driver's school would help obtain this job.

On-the-job training may last from 1 to 3 weeks to learn sufficient about the operation of a power truck, the terminal layout, and the correct methods of moving freight. The inexperienced worker is generally trained by an experienced FORK-LIFT-TRUCK OPERATOR. An automobile driver's license and a company physical may be required.

An inexperienced worker may enter this job by first having worked as a dock hand, having driven an automobile or small truck, or by having worked in shipping or receiving department. In some terminals, dock hands may work as fork-lift operators, or may perform both the duties of a dock hand and a fork-lift operator.

WORKER TRAITS

Aptitudes

Good spatial ability is needed to position fork under objects or materials to be moved, to maneuver load about with regard to other sta-

tionary objects, and to stack or unload the fork. Motor coordination (coordinating eyes and hands to make precise movements rapidly); manual dexterity (movement of hands in placing and turning motion); and eye-hand-foot coordination (the ability to move hand and foot according to visual stimuli), is required to make precise adjustments rapidly to controls of fork-lift truck.

Interests

FORK-LIFT-TRUCK OPERATORS should prefer dealing with objects; work that is routine and organized; and activities that are carried on in relation to processes, machines, and techniques.

Temperaments

Workers operating a fork-lift truck should be willing to perform repetitive work when loading or unloading continuously; to adapt to situations requiring precise control of vehicle movement.

Physical Demands and Working Conditions

Physical demands of this job range from light to medium. The worker generally spends most of the working hours operating one or a combination of the following type of fork-lift trucks; sit-down, stand-up, or a motorized hand truck operated by the worker while walking. The trucks are powered by gasoline or liquified petroleum gas-driven engines, or electric power units. The worker may be required to lift up to 50 pounds of freight, but normally uses the fork-lift to move all freight. The worker must use both hand-arm and foot-leg motions to operate fork-lift equipment. Normalcy of vision in far acuity, depth perception, field of vision, and accommodation is required to operate fork-lift safely, to move freight, judge distances, and avoid accidents in and around the dock area. Seasonal changes affect working conditions somewhat. Most terminals expose workers to outside temperatures as a result of open doors to load and unload freight. The dock area cannot be air-conditioned, but may be heated with space heaters to decrease the cold. Fork-lift operators are subject to the hazard of falling freight, but better protection is being designed into the manufacturing of new fork-lift trucks.

LABORER, GENERAL
(motor trans.) 909.687-014

OCCUPATIONAL STATEMENT

Performs variety of manual tasks around dock area of motor freight transportation company as directed. Sweeps dock area and cleans truck yard, using broom, shovel and wheelbarrow. May clean interior and exterior of trucks [CLEANER (any ind.) II].

EDUCATION, TRAINING, AND EXPERIENCE

There is no specific level of education for this job. On an entry level job with a trucking company, the LABORER, GENERAL may advance to a number of other jobs. It would be to the applicant's advantage to have completed high school or its equivalency (see page 13); or, after being employed, to take steps toward completing the GED tests. Advancement may depend largely on the worker, the size of the company, and local union policies.

On-the-job training usually consists of short demonstrations by an experienced worker or a supervisor. The LABORER, GENERAL may be directly responsible to a Dock Supervisor, the Garage Supervisor, or the Terminal Manager.

Although previous work experience is needed for this job, any work

experience in building or ground maintenance, however, would be helpful. Applicants who have had experience at a gasoline service station may be able to accept this job until a position opens up for a GAS-AND-OIL SERVICER. If the worker has had material handling experience in industry or the military service, this job could lead to a position on the dock. These are cited as examples. Other possibilities may exist.

WORKER TRAITS

Aptitudes

Verbal ability is needed to understand written and oral instructions regarding daily work assignments. Motor coordination (eye-hand coordination) is essential when manipulating cleaning equipment, lawn equipment and tools, and when painting with a brush. Manual dexterity is required when using hand or power tools in sweeping, washing, grass cutting, and painting.

Interests

The LABORER, GENERAL should have a preference for dealing with objects and for routine and organized activities.

Temperaments

The worker should be able to adapt to a variety of duties, such as sweeping and cleaning trucks, docks, and yard areas, cutting grass, removing snow, and minor paint work.

Physical Demands and Working Conditions

Physical demands for this job are rated from medium to heavy. The worker may lift up to 50 pounds when emptying trash barrels. Climbing is required to gain access to interiors of truck trailers. Stooping, kneeling, and crouching may be necessary to accomplish a variety of assignments. Reaching, handling, and fingering is required when using cleaning equipment and hand and power tools. The worker must spend most of the working day outside and is thus subject to the inclement weather.

NOTE.—Medium to large trucking companies may contract for truck washing services, groundkeeping services, and major building paint work. Should a trucking firm not have the above job, ask for the names of the companies that have these contracts. These, and related companies may be able to hire immediately.

Laborer, general.

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36

MANIFEST CLERK (air trans.; motor trans.; r.r. trans.; water trans.) 214.362-014

OCCUPATIONAL STATEMENT

Prepares manifest forms listing details of freight shipped by air, motor, rail, marine carrier: Types information on manifest, such as name of shipper, weight, destination, and charges from bills of lading and shipper's declaration. Using adding machine, computes totals of document items. Compares figures and totals on documents with statement of accounts submitted by accounting department to verify accuracy of documents. Notifies appropriate personnel to examine shipment when discrepancies are found. Resolves these discrepancies on accounting records or manifest.

NOTE.—This job is a particular specialization of the job of DOCUMENTATION-BILLING CLERK (air trans.; motor trans.; r.r. trans.; water trans.) 214.362-014, which appears in the fourth edition of the *Dictionary of Occupational Titles*.

EDUCATION, TRAINING, AND EXPERIENCE

MANIFEST CLERKS generally are required to have a high school diploma or its equivalency (see page 13). Some carriers, however, have no minimum educational requirements as long as the worker can perform the tasks of the job. Prior to beginning this job, the worker should have training in typing skills. Employers prefer that the clerk be able to type 50 to 75 words per minute. Experience using an adding machine is also helpful. Ex-military personnel who have had any kind of office experience should have suitable qualifications for this entry level job.

Inexperienced workers are trained on the job for 30 to 60 days by an experienced MANIFEST CLERK. The worker learns to transfer information from shipper's bill of lading or company freight bill to manifest sheet using a typewriter, and to verify totals using an adding machine.

WORKER TRAITS

Aptitudes

Verbal aptitude is required to understand the meaning of words, numbers, and abbreviations used on bills of lading well enough so that in transferring information to the manifest sheet incorrect data can be noted. Numerical aptitude is needed to add totals of all bills of lading or freight bills listed on the manifest. Clerical perception is essential to perceive figures accurately when copying data from a bill of lading or freight bills to the manifest, and when using an adding machine to verify totals. Motor coordination (eye-finger coordination) is required to touch-type with fingers striking the appropriate keys as the eye follows the copy. Finger dexterity is needed to depress keys on typewriter and adding machine.

Interests

Workers in this activity should prefer routine, organized job duties.

Temperaments

A MANIFEST CLERK should be able to adapt to work of a repetitive nature when continuously using a typewriter to transfer information from bills of lading or freight bills to company manifest sheets. The worker should be able to adapt to precise attainment of set limits and standards when quickly copying data from bills of lading or freight bills to company manifest sheets.

Physical Demands and Working Conditions

The physical demands of this job are sedentary. The worker spends the majority of his time at a desk preparing manifest sheets. Reaching, handling, and fingering is required to sort bills of lading, type manifest sheets, use adding machine, and occasionally use the telephone to

converse with the Dispatcher. Normalcy in near visual acuity and accommodation is required, but not critical, to read bills of lading or freight bills and to prepare manifest sheets. MANIFEST CLERKS work in well-lighted, air-conditioned, and generally modern terminal office buildings, which should provide the worker with above average working conditions.

MATERIAL HANDLER (any ind.) 929.687-030

distributor; floor-worker; line supply; loader and unloader; stacker; servicer; utility worker

OCCUPATIONAL STATEMENT

Loads, unloads, and conveys materials within or near plant, yard, or worksite, performing any combination of the following duties under specific instructions: Reads work order or follows supervisor's direction to ascertain materials or containers to be moved. Opens containers with steel cutters, crowbar, clawhammer, or other handtools. Counts and weighs materials or containers and records information on form. Loads and unloads materials onto or from pallets, shelves, trays, racks, conveyors, furnaces, and machines by hand. Loads materials into vehicles and installs strapping, bracing, or padding to prevent shifting or damage to transit, using handtools. Conveys materials from storage to designated area or between workers or departments, using wheelbarrow, handtruck, electric dolly, elevator, industrial truck, or other device. Secures lifting attachments to materials and conveys load to destination, using floor-operated crane or hoist, or signals crane or hoisting operators to move load to destination. Records number of units of materials moved or handled on daily production sheet. Attaches identifying tags or labels to materials or marks information on cases, bales, or other containers. Loads truck for INDUSTRIAL-TRUCK OPERATOR. Stacks or assembles materials into bundles and bands bundles together, using banding machine and clincher. Clamps together sections of portable conveyor or places conveyor sections on blocks or boxes to facilitate movement of materials or products. Tends moveable conveyor system or opens chutes to load loose materials, such as rock, sand, ore, chemicals, and coke, into railway cars and motor trucks. Removes samples of materials, labels them with identifying information and takes samples to laboratory for analysis [LABORATORY SAMPLE CARRIER]. Aids machine operators by lifting heavy objects by hand or by use of power hoist, and cleans work area, machines, and equipment, using broom, rags, and cleaning compounds. Makes simple adjustments or repairs, as realigning belts or replacing rollers using handtools. Assembles crates to contain products, such as machines or vehicles, using handtools, and precut lumber. Shovels loose materials, such as metals, plastics, chemicals, or small parts, into machine hoppers, and sand, gravel, sawdust, and metal chips into vehicles and containers, such as wheelbarrows, scrap truck, or barrels. May occasionally operate industrial truck or electric hoists to assist in loading or moving materials and products. Loads and unloads powdered materials, such as flour or fertilizer, into vehicles or containers, using suction hose, screw or bucket conveyor, or drag shovel. Releases gates of vehicles, such as ore cars or dump trucks, to dump materials into chutes, bins, hoppers or conveyors. Operates platform lift to dump materials from truck. May be designated according to material handled as FILLING HAULER, WEAVING; according to machine or equipment loaded or unloaded as BLUNGER LOADER; VEHICLE

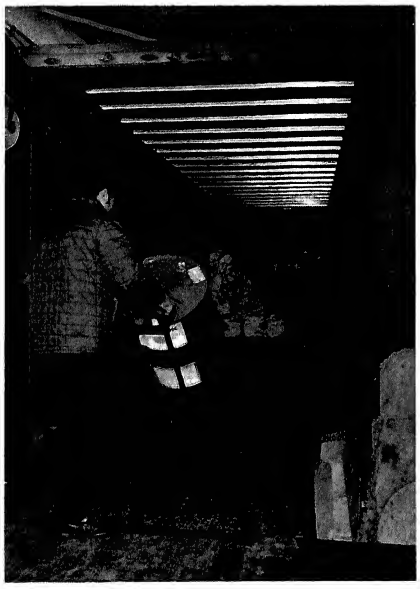
UNLOADER; or according to work station as OUTSIDE TRUCKER; PLATFORM LOADER. Additional Titles: BALE PILER; BATCH TRUCKER; BOBBIN HANDLER; HOGSHEAD DUMPER; KILN-CAR UNLOADER; LABORER, YARD; LOADER II; LUMBER-YARD WORKER; MERCHANDISE CARRIER; MOLD MOVER; OVEN STRIPPER; OVEN UNLOADER; PACKAGING-MACHINE-SUPPLIES DISTRIBUTOR; SLAB PICKER; POWDER TRUCKER; RACK CARRIER; RACKER; RETORT LOADER; ROPER; ROVING STOCK HANDLER; SCRAP WHEELER; SEGREGATOR; SUGAR TRUCKER; TIRE TRUCKER; TRUCKER, HAND.

EDUCATION, TRAINING, AND EXPERIENCE

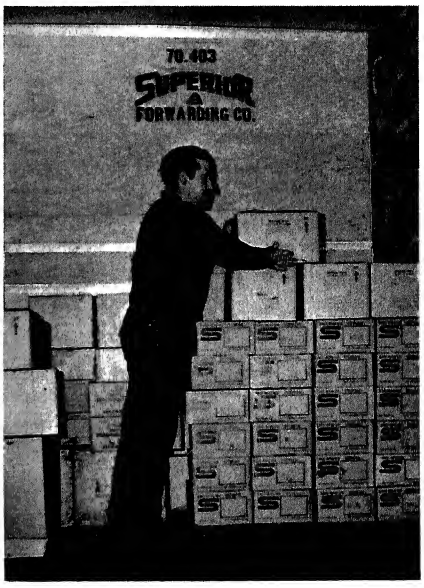
Educational requirements for this job generally range from completion of the 6th to 10th grade, but may vary from no minimum to completion of high school or its equivalency (see education section in this brochure on GED tests).

No previous experience is needed for this job. New workers are generally trained by coworkers or the Dock Supervisor in one of the various jobs on the dock. Job titles included in this definition may be known in the trucking industry as

Material handler.



Material handler.



Material handler.

Dock Hand, Stacker, Loader, Unloader, Checker, Two or Four Wheeler (job named for the two- or four-wheel push cart that the worker uses to move freight in and around the dock), and possibly an unending variety of other company titles. Regardless of company terminology, however, all of these workers are performing the same tasks—handling of material. Material handling may be done in a variety of ways (as we have seen by the company titles), and may be found in any industry. On-the-job training generally consists of brief oral instructions from the supervisor, or may require a short demonstration of the work to be performed. Some MATERIAL HANDLER(S) or dock workers may perform the duties of an INDUSTRIAL-TRUCK OPERATOR, commonly referred to as a Fork-Lift Operator.

WORKER TRAITS

Aptitudes

Spatial ability is necessary when worker is engaged in loading and unloading of truck trailers. This requires the worker to visualize freight according to size and weight, in order to maintain proper balance of freight in loaded trailer or on a fork-lift pallet, and to comply with weight limitations of equipment and weight standards specified by regulations. Motor coordination, manual dexterity, eye-hand-foot coordination are required when operating automated equipment such as a fork-lift truck. (See INDUSTRIAL-TRUCK OPERATOR)

Interests

A dock worker should have a preference for jobs dealing with objects, and performing work in a routine and organized manner when required to handle freight during most of the work day.

Temperaments

MATERIAL HANDLERS must load and unload freight continuously; therefore all workers engaged in the occupation should prefer work of a repetitious nature.

Physical Demands and Working Conditions

Because of the variety of duties that a dock worker may perform, physical demands range from light to very heavy. When loading and unloading trailers, the worker may lift up to 125 pounds briefly, and up to 50 pounds frequently. Workers pushing or pulling two- or four-wheel carts exert less force and work is much lighter. When the worker is using a fork-lift truck the strength factor is at its lightest. Stooping, reaching, and handling are continuous factors in this job. See INDUSTRIAL-TRUCK OPERATOR for physical demands when operating a fork-lift truck. Dock workers are subject to seasonal temperatures in that docks must be open to the weather to load and unload trailers. Space heaters may be used to compensate for bitter cold temperatures. Improvements in working conditions are being made by more versatile fork-lift equipment, automated drag lines, and loading and unloading techniques.

OVER-SHORT-AND-DAMAGE CLERK (clerical)

241.367-026

OCCUPATIONAL STATEMENT

Investigates notices of over, short, and damaged shipments and disposes of refused or unclaimed shipments: Examines records, such as shipping reports, manifests, and waybills, and converses or corresponds with shipper, carrier, and consigner to obtain facts regarding problems with shipment. Examines pertinent information to determine accuracy of

complaint and responsibility for error. Notifies appropriate personnel of findings, adjustments, and recommendations, such as exchange of merchandise, refund of money, credit to client's account, or adjustment of client's bill. Reconsigns shipments loaded in wrong cars or shipped to wrong destination. Disposes of damaged and unclaimed freight according to instructions.

NOTE.—This job is a particular specialization of CUSTOMER-COMPLAINT CLERK (clerical) 241.367-014, which appears in the *Dictionary of Occupational Titles,* fourth edition.

EDUCATION, TRAINING, AND EXPERIENCE

OVER-SHORT-AND-DAMAGE CLERKS are generally required to have a high school diploma or its equivalency (see page 13) although some firms may have no minimum education requirements. Instructions in typing would be an advantage as typing is a minor part of this job. A typing speed of 35 to 50 words per minute is usually required. No particular experience is necessary but office experience in private business or in the military is very helpful.

New workers are generally trained on the job for 30 to 60 days by an experienced OVER-SHORT-AND-DAMAGE CLERK. The worker becomes familiar with the necessary forms and procedures to handle and dispose of over, short, or damaged freight.

WORKER TRAITS

Aptitudes

Verbal ability is needed to understand written and oral reports on events leading to freight over, short, or damaged. Numerical ability is required to determine and record quantity of over, short, or damaged freight. Clerical ability is essential to examine records and prepare reports concerning discrepancies. Form perception is needed to recognize irregularities in damaged containers and freight contents. Motor coordination (eye-finger coordination) is required to touch-type with fingers striking the appropriate keys as the eye follows the copy. Finger dexterity is needed to depress keys on typewriter and when filing and processing reports.

Interests

Workers in this category should have a preference for activities involving business contact with company personnel and customers, while investigating reasons for discrepancies.

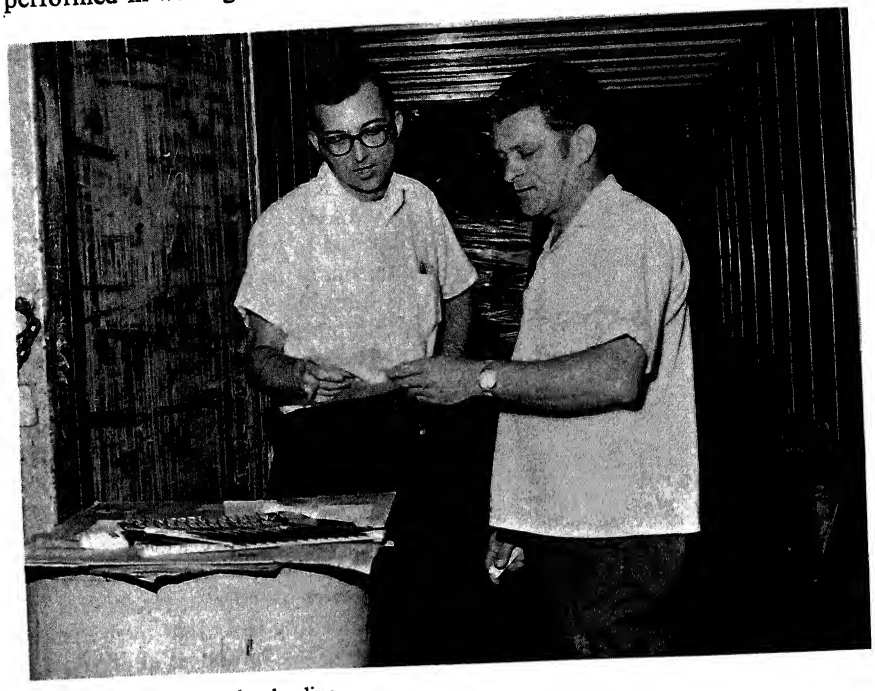
Temperaments

An OVER-SHORT-AND-DAMAGE CLERK (see Glossary) should be able to make verifiable judgments and decisions as to how freight was damaged, what the value of the freight is, where the freight is if it is short, and what to do with the freight if it is over. The clerk must be able to deal with people to establish events leading to the discrepancies between freight on hand and freight shown on the bill. Minor stress may be a factor in this job when dealing with shippers and other customers of damaged or missing freight. The worker should also be able to adapt to work requiring attainment of set standards when inspecting damaged freight, describing damage on over-short-and-damage form, and when processing overage according to company regulations.

Physical Demands and Working Conditions

Physical demands for this job are rated as sedentary to light work. Although most duties are performed while sitting at a desk, a certain amount of walking is required when inspecting freight. Walking is also required when seeking out other company personnel to determine cause of discrepancies. Reaching, handling, and fingering is required to use telephone, handle paper work, and type reports. Normal talking and hearing abilities are needed to express and exchange factual information over the telephone with customers and other company personnel. Normalcy in near visual acuity and accommodation is neces-

sary, but not critical, to read forms and reports, to inspect freight, and to initiate and write reports on discrepancies. The majority of duties are performed in well-lighted, air-conditioned, and generally modern terminal office buildings, which should provide the worker with above average working conditions.



Supervisor, loading and unloading.

SUPERVISOR, LOADING AND UNLOADING (any ind.)

922.137-018

OCCUPATIONAL STATEMENT

Supervises and coordinates activities of workers engaged in loading and unloading railroad cars and trucks and in moving and storing materials or products: Assigns job task to workers according to loading and unloading schedules and observes loading of railcars and trucks to determine conformance to loading patterns and to prevent shifting or damage to materials or products during transit. Verifies materials loaded or unloaded against work order or bill of lading. Directs workers to move materials or products to storage areas or production departments. Trains new employees in job duties. Performs duties as described under SUPERVISOR (any ind.). May schedule sequence of transportation usage, routes of transportation vehicle operators, or movement of materials into and out of storage area. May be designated according to materials handled, work location, or specialization as BULL-GANG SUPERVISOR (tobacco); MUNITIONS-HANDLER SUPERVISOR (ammunition); PLATFORM SUPERVISOR (and ind.); SUPERVISOR, CASE LOADING (malt liquors); SUPERVISOR, LOADING (any ind.); SUPERVISOR, SHIPPING (bake. prod.); and SUPERVISOR, SHIPPING ROOM (malt liquors); SUPERVISOR, UNLOADING (any ind.).

EDUCATION, TRAINING, AND EXPERIENCE

A high school diploma or its equivalency (see page 13) is either required or strongly preferred by most trucking companies. Many firms require the education and a minimum of one year's experience in supervision of other workers. Some workers may enter this job with one

or two years of college.

Inexperienced dock supervisors are usually trained on-the-job by other supervisors, a dock superintendent, or the terminal manager. Usually 30 days are sufficient to learn company policy and procedures. An experienced dock supervisor from another trucking company may need only a week to become familiar with policy and procedures.

WORKER TRAITS

Aptitudes

The dock supervisor needs verbal ability to train and supervise dock workers; to confer with other operations personnel, management, and union representatives; and to read and understand rules, regulations and/or policies of the company and the union. Numerical ability is needed to inspect and tally freight bills corresponding with freight being loaded into trailers in order to comply with set weight limits established by State and Federal Government. Spatial ability is needed to visualize available dock space to handle specific volumes of freight and loading procedures to be used in compliance with delivery route schedule. Clerical perception is necessary to accurately perceive freight bill and trailer identification numbers, and to assure that weight of freight does not exceed established regulations.

Interests

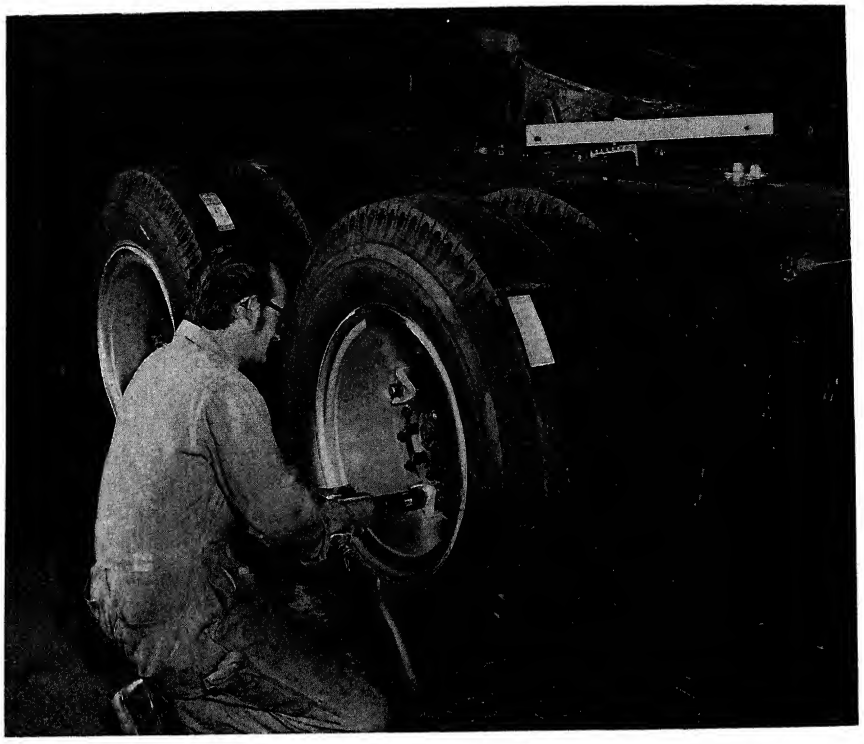
Workers performing the duties of dock supervisor should prefer activities involving business contact with other people when supervising and assigning workers to their various job tasks. They should also prefer activities that are carried on in relation to processes, machines, and techniques when loading, unloading, and routing or rerouting freight.

Temperaments

Dock supervisors are required to direct, control, and plan activities of workers engaged in loading and unloading of freight. Beyond giving and receiving instructions, the supervisor should adapt easily to dealing with people when coordinating work of others and conferring with trucking company management and labor union representatives.

Physical Demands and Working Conditions

The physical demands on a dock supervisor are usually light and normally require little physical work. Most of the workday is passed in walking or standing. Talking and hearing is important to the dock supervisor when giving and receiving instructions, and operational information. Near visual acuity, far acuity, depth perception, and field of vision are necessary when directing the activities of workers loading and unloading freight, reading bill-of-lading sheets and company and union policies, and when judging distance of freight and workers on the dock. The dock supervisor must be able to adapt to seasonal temperature found in various parts of the country. Docks can be heated to some degree by space heaters, but rarely are air-conditioned during hot weather. Unlike the dock worker, the supervisor may spend some time in temperature-controlled offices. Although temperature is a factor, dock workers and supervisors generally are protected from direct sunlight, rain, and snow when working in a terminal facility.



Tire repairer.

TIRE REPAIRER (auto. ser.)
915.684-010

tire-and-tube repairer; tire-and-tube servicer; tire fixer; tire servicer

OCCUPATIONAL STATEMENT

Repairs damaged tires of automobiles, trucks, and other automotive vehicles: Raises vehicle, using hydraulic jack, and unbolts wheel, using lug wrench. Removes wheel from vehicle by hand or, when repairing giant tires of heavy equipment, by use of power hoist. Locates puncture in tubeless tire by visual inspection or by immersing inflated tire in water bath and observing air bubbles emerging from puncture. Seals puncture in tubeless tire by inserting adhesive material and expanding rubber plug into puncture, using handtools. Separates tubed tire from wheel, using rubber mallet and metal bar or mechanical tire changer. Removes inner tube from tire and inspects tire casing for defects, such as holes and tears. Glues boot (tire patch) over rupture in tire casing, using rubber cement. Inflates inner tube and immerses it in water to locate leak. Buffs defective area of inner tube, using scraper, and patches tube with adhesive rubber patch or seals rubber patch to tube, using hot, vulcanizing plate. Reassembles tire onto wheel, and places wheel on balancing machine to determine counterweights required to balance wheel. Hammers required counterweights onto rim of wheel. Cleans sides of whitewall tires and remounts wheel into vehicle. Responds to emergency calls to make repairs or replacement of damaged tires to company vehicles on the road. May be designated according to specialty as TIRE CHANGER. May drive pickup truck equipped with air compressor, and inspect tractor and trailer tires, using air compressor to bring tires up to specified air pressure.

EDUCATION, TRAINING, AND EXPERIENCE

No specific level of education is required for this job. Because it can lead to a number of better jobs, however, it is advisable to complete a high

school education or its equivalency (see page 13).

On-the-job training, usually given by an experienced TIRE REPAIRER, consists of one to two days of informal instruction and short demonstrations on how to repair tube and tubeless automotive tires properly. Some trucking firms train their tire people to inspect tractor and trailer tires daily for air pressure. Generally the worker drives a small pickup truck equipped with an air compressor, around the yards, takes air pressure of all tires on a unit, and inflates or deflates tires to specified pressure.

Although no previous experience is needed for this job, any gained in repairing tires at a gasoline service station or in the military service would be to the worker's advantage.

WORKER TRAITS

Aptitudes

Numerical aptitude is required to measure size of patch needed to repair tire, size of weights for balancing of tire, and for proper inflation of tire using air hose with a pressure gage. Spatial ability is necessary to position tire patch or plug when repairing damaged tire, when determining size and position of weights needed to balance tire and rim, and when replacing repaired tire on vehicle. Form perception is required to inspect tires visually, to locate punctures and other malfunctions. Motor coordination (eye-hand-finger) is essential when affixing patches or plugs to punctured areas of tires, and when positioning and clamping weights to rim of wheel for balance. Manual dexterity is required to use hand or power tools to remove and replace wheel on vehicle, and to repair and balance tire.

Interests

A TIRE REPAIRER should prefer dealing with objects, being involved in routine and organized activities; working with machines; and following techniques when repairing or changing tires on automotive vehicles.

Temperaments

The worker must adapt to attainment of set limits, tolerances, and standards when repairing, balancing, and inflating automotive tires. A variety of duties is involved such as the use of lifting devices to raise a vehicle, the use of hand and power tools to repair and balance tires, the washing of tires, the answering of emergency road calls and, when required, the driving of a pickup truck around the yard to inspect air pressure of tires on parked vehicles.

Physical Demands and Working Conditions

Physical demands for this job are rated as heavy to very heavy. Unlike automobile tires which are relatively light, a truck tire and wheel assembly can weigh over 200 pounds. The worker may have a coworker help lift this much weight, or the worker may use mechanical devices to aid in lifting and moving the assembly. The worker is required to stoop, kneel, or crouch to remove and replace vehicle tires. Reaching, handling, fingering, and feeling are all required to accomplish the various tasks involved in the repair of automotive tires. The job duties of a TIRE REPAIRER require the worker to be both inside and outside. When inside, the worker usually works in a well-lighted, heated, and ventilated building. When working outside, the worker is naturally subject to inclement weather.

TRACER CLERK (clerical)
241.367-014

OCCUPATIONAL STATEMENT

Locates and expedites lost or delayed freight shipments: Receives notice from consignee or shipper that freight shipment has not arrived on schedule. Reviews bills of lading, waybills, and other shipping records to verify route of shipment, expected time and date of arrival, and kind and amount of freight ordered by consignee and shipped by shipper, and to determine if carrier, shipper, or consignee is in error. Communicates with original shipping station by telephone, telegram, or letter to ascertain date, time, car, or truck numbers, and route on which freight was shipped. Examines records to ascertain if sealed cars or trucks have been tampered with during transit or if there is any record of theft of shipment. Communicates with consignee or shipper by telegram, letter, or telephone to explain causes of delay in arrival of shipment.

NOTE.—This job is a particular specialization of the CUSTOMER-COMPLAINT CLERK (clerical) 241.367-014, which appears in the *Dictionary of Occupational Titles*, fourth edition.[19]

EDUCATION, TRAINING, AND EXPERIENCE

Workers in this category are usually required to have a high school diploma or its equivalency (see page 13). Some trucking companies may have no minimum education requirements. Because light typing may be a part of this job, some training in typing skills would be an advantage. Usually a typing speed of 35 to 50 words per minute is sufficient. Little or no experience is needed by the worker for this job. The duties of the job require the clerk to communicate with many people and therefore an outgoing personality, or any experience dealing with people would be helpful. Workers with inquisitive minds and ability to think logically may find this job very satisfying. It may be ideal for ex-military personnel who have had any kind of office or material experience.

New workers are generally trained on the job for 30 to 60 days by an experienced TRACER, or an office supervisor. Training is of the informal type and involves learning the correct procedures of investigating and tracing the whereabouts of lost or delayed freight.

WORKER TRAITS

Aptitudes

Verbal ability is essential to understand written and oral reports on events leading to the delay or loss of freight. Clerical perception is required to read accurately schedules describing designated routes that freight is traveling, approximate times of arrival at various points along routes and at final destinations. Numerical ability is needed to compute mileage of freight from place of origin, the travel time required to reach final destination, and an estimated shipment delivery date. Motor coordination (eye-finger) is required to touch-type, as the eye follows copy. Finger dexterity is needed to depress keys on typewriter and to process and file reports.

Interests

TRACERS should have a preference for dealing with people when tracing lost or delayed freight.

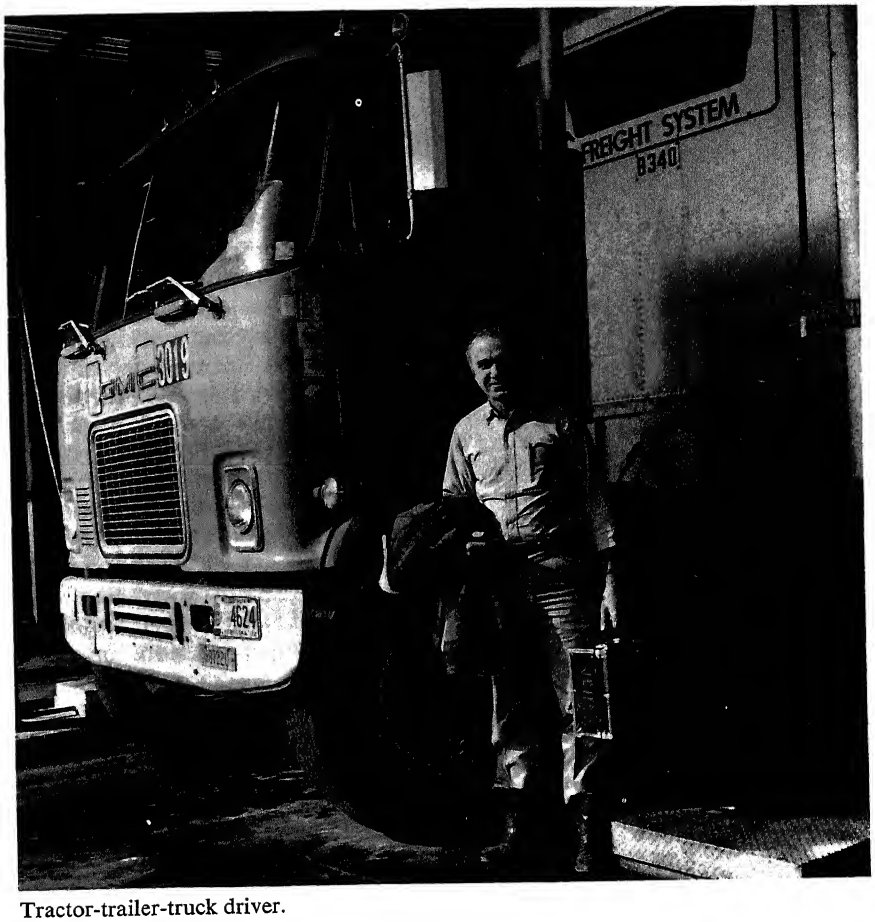
Temperaments

Workers on this job should be able to make verifiable generalizations, judgments, and decisions when tracing freight from point of origin to possible point of delay or loss; based on these judgments and decisions the worker should be able to expedite the freight to its destination. Ability to communicate and deal with people is necessary in order to trace shipments from one point to another until shipment has been located.

[19] Ibid.

Physical Demands and Working Conditions

Physical demands for the job duties of a TRACER are rated as sedentary to light work. Most tasks are performed while sitting at a desk. Ten to 20 percent of the worker's time, however, may be spent walking to locate other company personnel for information, or standing to retrieve or file documents in file cabinets. Reaching, handling, and fingering is required to use telephone, handle paper work, and type reports and letters. Normal talking and hearing abilities are necessary to express and exchange information over the telephone with shippers, other company terminals, and interline carriers. Normalcy in near visual acuity and accommodation is required, but not critical, to read and initiate forms, letters, and reports regarding lost or delayed freight. The TRACER spends his major time in a well-lighted, air-conditioned, and generally modern terminal office building, which should provide the worker with above average working conditions.



Tractor-trailer-truck driver.

TRACTOR-TRAILER-TRUCK DRIVER

(any ind.)
904.383-010

OCCUPATIONAL STATEMENT

Drives gasoline or diesel-powered combination, usually long distances, to transport and deliver products, livestock, or materials in liquid, loose, or packaged form: Drives truck to destination, applying knowledge of commercial driving regulations and skill in maneuvering vehicle in difficult situations, such as narrow passageways. Inspects truck for defects before and after trips and submits report indicating truck condition. Maintains driver log according to ICC regulations. May assist workers in loading and unloading truck. May transport new

automobiles or trucks from manufacturers or rail terminals to dealers and be designated TRANSPORT DRIVER (motor trans.). May drive tractor with two trailers hitched in tandem and be designated DOUBLE-BOTTOM DRIVER (any ind.). May drive tractor-trailer combination to deliver poles for utility and construction companies and be designated POLE-TRUCK DRIVER (const.: light, heat, & power; tel. & tel.). May work as member of two-man team driving tractor with sleeper bunk behind cab and be designated LONG-HAUL-SLEEPER DRIVER (any ind.). May drive tractor-trailer combination to deliver or spray water and be designated WATER-TRUCK DRIVER (const.: petrol. production) I.

EDUCATION, TRAINING, AND EXPERIENCE

A high school education or its equivalency (see page 13) is preferred by most carriers. Some companies, however, may hire an inexperienced worker with less formal education. But the trend does seem to emphasize completion of a high school education.

Driver's education courses at a high school or truck driver's training at an accredited truck driver's school is very helpful in obtaining this job and is much preferred by most major over-the-road or interstate carriers. New workers usually spend a specific amount of time—1 to 3 months—on the job, observing and working with qualified drivers. Some carriers allow an inexperienced driver to practice with a rig on the company's parking lot in order to qualify eventually for a chauffeur's license and company driving qualification test. Inexperienced workers usually enter this occupation by first driving farm equipment or small trucks; then, having gained experience, they get jobs driving larger and more complicated trucks. A worker may also begin as a helper to a local truck driver, assisting with loading and unloading of the truck, and occasionally doing some relief driving. Dock workers can advance into city driving jobs and then into over-the-road driving positions. The U.S. Department of Transportation establishes minimum qualifications on over-the-road drivers engaged in interstate or foreign commerce. The driver must be at least 21 years of age, able-bodied, with good hearing and vision of at least 20/40 with or without glasses. The worker must be able to read and speak English, have at least one year's driving experience (which may include driving private automobiles) and a good driving record. A number of carriers, however, have a minimum age limit of 25 years for long-distance drivers. Some trucking firms require several years of experience in handling tractor-trailer rigs which usually cost several thousand dollars and may carry cargo worth hundreds of thousands of dollars. All interstate drivers must also pass the Interstate Commerce Commission (ICC) physical examination.

WORKER TRAITS

Aptitudes

Good verbal ability is necessary to understand written and oral instructions; to prepare a required Department of Transportation inspection report and the daily log; and to understand and interpret all State and Federal regulations governing interstate drivers. Spatial ability is required to operate a tractor-trailer rig, such as judging clearances accurately while driving around corners or through narrow passageways, and when backing tractor-trailer unit into loading platform. Motor coordination, manual dexterity, and eye-hand-foot coordination is necessary to operate controls to drive and park tractor-trailer rig. Color vision is required to observe traffic signals and warning lights on emergency vehicles.

Interests

A preference for working with machines is required to drive a tractor-trailer rig. Job duties may require business contact with people when delivering cargo; this may entail collecting payment or obtaining a signed receipt for delivered freight. Worker should have an interest in dealing with objects as job duties occasionally may require loading and unloading of cargo, placing cargo in order of delivery schedule, and making maximum use of space.

Temperaments

Interstate drivers must be aware of set limits, tolerances, and standards when operating a vehicle through controlled speed zones. They must also be aware of weight of cargo on each axle, and total gross weight in order to conform with regulatory standards and tolerances of equipment. Long-distance drivers may be subject to stress when trying to meet time schedules, driving in inclement weather, and when away from home and family for a long time.

Physical Demands and Working Conditions

Physical demands of this job range from medium to very heavy. The worker generally spends most of the working hours driving the tractor. Other long-distance drivers, such as moving van drivers, may be required to load or unload furniture, refrigerators, or machinery in excess of 100 pounds. Both hand-arm and foot-leg motions are necessary to operate a tractor-trailer rig. Normalcy in all visual aspects (far acuity, near acuity, depth perception, field of vision, accommodation, and color vision) is required to operate the vehicle safely and in compliance with traffic regulations. Depth perception, far acuity, and field of vision are especially needed to judge distances and avoid accidents; color vision must be normal to react properly to traffic signals. The over-the-road driver is subject to strict regulations regarding the number of hours worked during a day or week. U.S. Department of Transportation regulations state that a driver may drive no more than 60 hours in any 7-day period, and no more than 70 hours in any period of 8 consecutive days without taking proper time off for rest. Some companies use a two-driver team on very long runs, which means that the drivers stay with the rig from the beginning to the end of that run. In this situation the drivers may be with the rig for more than 100 hours at a time, and away from home for days and even weeks. The physical strain of over-the-road truck driving is being reduced by more comfortable seating and sleeping accommodations, air conditioning, and more readily accessible controls in the tractor cab. In addition to a cab full of dials, meters, levers, and switches, many over-the-road and city drivers now rely on the convenience of a citizens band (CB) two-way radio as part of their operating equipment. This form of communication can be used by drivers to determine road, weather, and traffic conditions ahead, for emergencies, or to communicate with their home or base unit in the trucking terminal. Better State roads and further completion of the interstate highway system has brought much improved working conditions to the long-distance drivers.

TRAFFIC-RATE CLERK

(clerical) 214.362-038

freight-rate clerk; rate clerk

OCCUPATIONAL STATEMENT

Compiles and computes freight rates, passenger fares, and other charges for transportation services according to rate tables and tariff regulations: Examines shipping bills to obtain description of freight, and classifies freight according to rate-book description. Consults rate schedule to obtain specific rate for each item classified depending on distance shipped. Computes total freight charge and records charges on shipping order. Calculates and records storage, redelivery, and reconsignment charges when applicable. Answers inquiries from shippers regarding rates, routing, packing procedures, and interline transportation procedures. May examine bills of lading and file claims with transportation companies May be designated

TARIFF CLERK. May be required to perform duties of BILLING-MACHINE OPERATOR, and prepare company freight bills.

EDUCATION, TRAINING, AND EXPERIENCE

Rate Clerks usually are required to have a high school education or its equivalency (see page 13). Some trucking firms have no minimum educational requirements as long as the worker can perform the job tasks. Applicants for this job would be advised to have a good foundation in high school arithmetic and an above average aptitude for working with numbers. Ex-military personnel who have experience dealing with numbers may be qualified to do this work, and should find this entry level job very satisfying. Military duties related to freight rating may be such jobs as clerical work in finance, disbursement, supply, or material control.

Inexperienced Rate Clerks are given informal on-the-job training by an experienced Rate Clerk for a period of 60 to 90 days. Because of the complexity of rating procedures in the motor freight industry however, some employers may train workers for 6 months to 1 year.

WORKER TRAITS

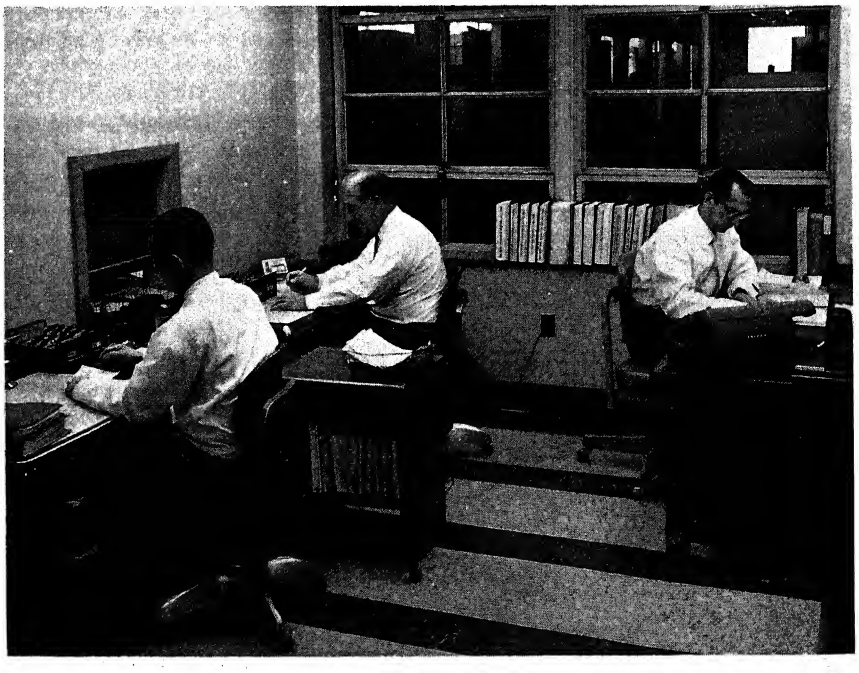
Aptitudes

Verbal aptitude is essential to understanding the meaning of words and numbers, when classifying large varieties of commodities and assigning applicable rates to each classification. Numerical aptitude is most important when computing rate of charge to shippers and interline carriers. Clerical perception is required to read, record, and write numbers and words quickly and accurately in preparing freight bills. Motor coordination (eye-finger) is essential to touch-type, with fingers striking the appropriate keys as the eye follows the copy. Finger dexterity is needed to compute and prepare freight bills using pencil or pen, and calculator.

Interests

Rate Clerks should prefer work dealing with objects when using multiple rating schedules to compute charges for freight, and a calculator to compute rates. The worker should also prefer business contact with people when answering inquiries from the shippers regarding rates and routing.

Traffic-rate clerks.



Temperaments

Workers in this category should adapt to making decisions based on measurable and verifiable criteria when classifying freight, computing rates, determining interline carriers to be used, and the portion of the freight charge owed to the participating interline carrier for its services. Adaptability to attainment of set limits and standards is needed when selecting specific classifications for a wide variety of commodities, assigning correct rates for each individual classification of freight, and when computing total charges for amount of freight being shipped. The Rate Clerk occasionally must deal with people when quoting rates and routing.

Physical Demands and Working Conditions

Physical demands for this job are rated as sedentary. The worker spends almost all of the time sitting at a desk. No significant amount of walking or lifting is necessary. Reaching, handling, and fingering is required to reach for and grasp rate books, and finger through indexed pages to select specific schedules for various commodities. Normal talking and hearing abilities are necessary, but not critical, to answer telephone inquiries regarding rates and routing. Normalcy in near visual acuity and accommodation is needed to read rate schedules, compute rates, and extend charges to the freight bill. TRAFFIC-RATE CLERKS work in well-lighted, air-conditioned, and usually modern terminal office buildings, which should provide the worker with above average working conditions.

TRUCK DRIVER, HEAVY
(any ind.) 905.663-014

OCCUPATIONAL STATEMENT

Drives truck with capacity of more than 3 tons to transport materials in liquid or packaged form to and from specified destinations such as truck terminals, railroad stations, plants, residences, offices, or within industrial yards: Verifies load against shipping papers. Drives truck to destination, applying knowledge of commercial driving regulations and roads in area. Prepares receipts for loads picked up. Collects payment for goods delivered and for delivery charges. May load and unload truck. May inspect truck equipment and supplies, such as tires, lights, brakes, gas, oil, and water. May perform emergency roadside repairs, such as changing tires, installing light bulbs, fuses, tire chains, and spark plugs. When driving truck equipped for specific purposes, such as fighting fires, digging holes, and installing and repairing utility company lines, may be designated FIRE-TRUCK DRIVER; HOLE-DIGGER-TRUCK DRIVER; TOWER-TRUCK DRIVER. When specializing in making deliveries may be designated DELIVERY-TRUCK DRIVER, HEAVY. May be designated according to type of truck driven as TRUCK DRIVER, FLATBED. May be designated according to kind of cargo transported as WATER HAULER.

EDUCATION, TRAINING, AND EXPERIENCE

Educational requirements for local or city drivers vary from a minimum of eighth grade to completion of high school or its equivalency (see page 13). There seems to be a preference for more formal education. Also notable among employers was the favorable reception of new workers who had participated in high school driver education courses, or workers who had completed a truck driver's training course with an accredited truck driver's school.

On-the-job training generally con-

sists of working with an experienced city driver for 1 to 3 days to learn company procedures. Some firms simply give a new driver a company driver's test, and then assign that worker to an established pickup and delivery route. Most employers require that new drivers be totally familiar with the city they are to work in, prior to being hired. Inexperienced workers may enter city driving jobs by first having driven smaller trucks on farms or in the city, in the military service, or upon completion of training at a truck driver's school. A chauffeur's license is required, as is a company physical. When the company does interstate business, the city drivers also must satisfy the same ICC requirements set up for over-the-road truck drivers.

WORKER TRAITS

Aptitudes

Good verbal ability is required to understand written and oral instructions and to maintain a daily log. Spatial ability is required to operate a tractor-trailer rig—judging clearances accurately while driving around corners or through narrow passageways, and when backing tractor and trailer unit into loading and unloading platforms at terminal and customer docks. Motor coordination, manual dexterity, and eye-hand-foot coordination are required to operate controls to drive and park tractor-trailer rig. Color vision is necessary to observe traffic signals and warning lights on emergency vehicles.

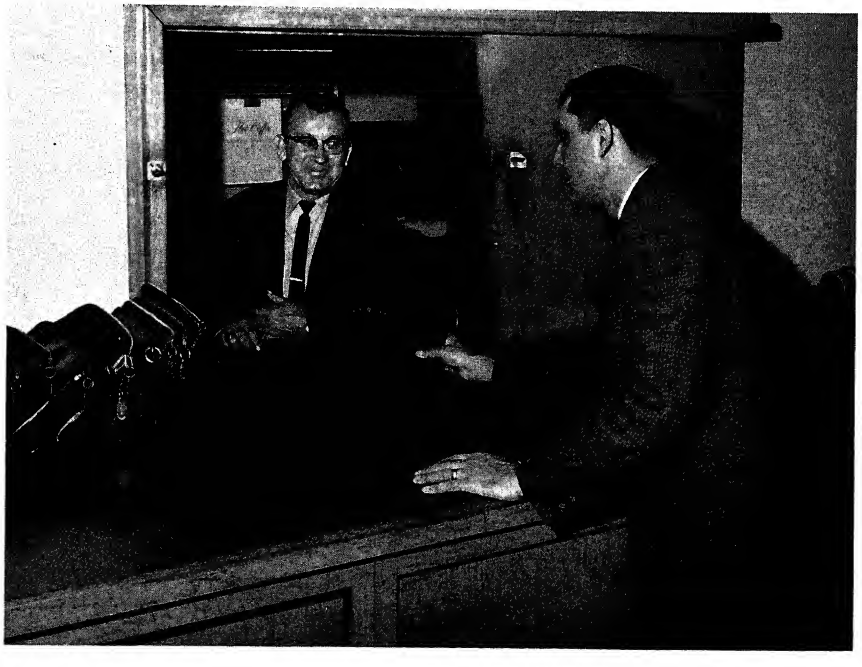
Interests

To drive a tractor-trailer rig, work with machines should be preferred. Job duties generally require business contact with people when delivering and picking up freight, and may also include collecting payment or obtaining a signed receipt for delivered freight. Worker should have an interest in dealing with objects as job duties may require loading and unloading of freight, and placing of cargo in order of delivery schedule as well as making maximum utilization of space.

Temperaments

City drivers should be able to perform a variety of duties such as driving a truck, loading or unloading a trailer, checking manifest sheets, using a telephone, and dealing with customers to collect payments or issue receipts. Workers in this category should adapt to dealing with people when obtaining cash or issuing receipts.

Truck driver, heavy.



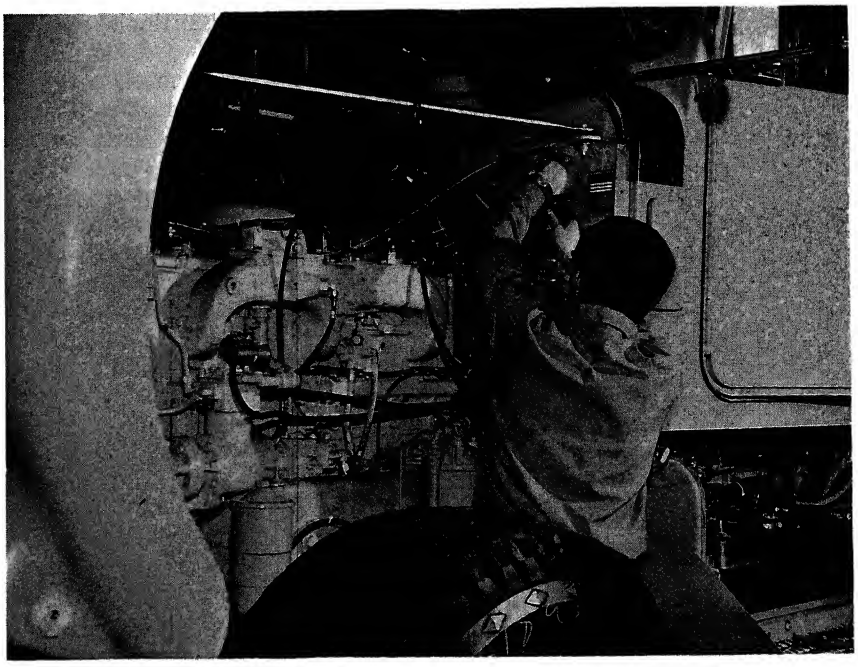
Physical Demands and Working Conditions

Physical demands of this job range from heavy to very heavy. Although the city driver spends much of the time behind the wheel driving, the driver may be required to load or unload freight weighing up to 100 pounds. Both hand-arm and foot-leg motions are necessary to operate tractor-trailer and other types of trucks. Normalcy in all visual aspects (far acuity, near acuity, depth perception, field of vision, accommodation, and color vision) is required to operate the vehicle safely and in compliance with traffic regulations; depth perception, far acuity, and field of vision are particularly needed to judge distance and avoid accidents, and color vision in order to react properly to traffic and emergency vehicle warning signals. The city driver who is working for an interstate carrier is subject to the same regulations as the over-the-road driver, including number of hours worked. Under ICC regulations a driver may drive no more than 60 hours in any 7-day period, and no more than 70 hours in any period of 8 consecutive days without taking required time off for rest. City drivers employed by carriers who do no business across State lines, are not subject to ICC regulations. The physical strain of city truck driving is being reduced by more comfortable seating, air-conditioning, and more readily accessible controls in the tractor or truck cab. To aid the driver while on city streets, many delivery trucks are now equipped with citizen's band two-way radio units. Instead of trying to stop the truck to telephone the terminal, the driver can now receive new freight pickup instructions in the truck cab. There are many other practical and economical advantages to the driver's use of CB units.

TRUCK MECHANIC (auto. ser.) 620.281-050

OCCUPATIONAL STATEMENT

Repairs and overhauls city delivery trucks, over-the-road tractor-trailer trucks, industrial trucks, and other company-owned automotive vehicles: Inspects, diagnoses, and repairs gasoline and diesel-powered motor vehicles according to work orders issued by the SUPERINTENDENT, MAINTENANCE. Plans work procedure, using charts, technical manuals, and experience. Raises vehicle, using hydraulic jack or hoist, to gain access to mechanical units bolted to underside of vehicle. Removes unit, such as engine, transmission, or differential, using wrenches and hoist. Disassembles unit and inspects parts for wear, using micrometers, calipers, and thickness gages. Repairs or replaces parts, such as pistons, rods, gears, valves, and bearings, using mechanic's handtools. Overhauls or replaces carburetors, blowers (fuel injectors), generators, distributors, starters, and pumps. Rebuilds parts, such as crankshafts and cylinder blocks, using lathes, shapers, drill presses, and welding equipment. Rewires ignition systems, lights, and instrument panel. Relines and adjusts brakes, aligns front end, repairs or replaces shock absorbers, and solders leaks in radiator. Mends damaged body and fenders by hammering out or filling in dents and welding broken parts. Replaces and adjusts headlights, and installs and repairs accessories, such as radios, heaters, mirrors, and windshield wipers. May perform preventive maintenance inspection of vehicles using specified charts indicating parts to be inspected or serviced. May repaint vehicles using paint spray equipment. May service air-conditioning and refrigeration equipment on tractors and trailers.



Truck mechanic.

EDUCATION, TRAINING, AND EXPERIENCE

Generally speaking educational requirements for a TRUCK MECHANIC range from completion of high school, or its equivalency (see page 13) to completion of a trade school where related courses are taught. In addition to the above educational requirements, a TRUCK MECHANIC must have completed an approved Automotive-Mechanic's apprenticeship or had sufficient work experience to qualify as a mechanic.

Because a mechanic's job is not an entry level job, the worker generally begins employment as a skilled worker or as a qualified Journeyman Mechanic. No on-the-job training exists. The worker does spend a few days becoming acquainted with shop procedures.

The mechanic must usually have a chauffeur's license and may have to be a qualified driver under Department of Transportation regulations when working for a trucking company that does business across State lines. Occasionally the mechanic may have to drive a tractor on city or State highways to exchange units with the driver of a disabled truck, or the mechanic may have to test drive a truck on public streets.

WORKER TRAITS

Aptitudes

Verbal ability is required to understand oral instructions as well as ability to read and understand technical service manuals. Numerical ability is needed to measure with and read micrometers, calipers, and thickness gages; and to select proper size, grade, or type of product following specifications for make and model of truck. Spatial aptitude is necessary to read service manual schematics and diagrams in order to disassemble and assemble various components of trucks; to visualize actual assemblies from such material; and to recognize spatial relationships of parts during repair of vehicle. Form perception is a requirement to identify vehicle component parts, and to detect defects in parts by their shape, size, and alignment with other parts, when determining type and extent of repairs or service. Motor coordination is needed when using hand and power tools to adjust or repair component parts of automotive vehicles. Finger and manual dexterity is required to guide and move tools, position component parts, disassemble and assemble parts during repair of automotive vehicles.

Interests

TRUCK MECHANICS should have a preference for working with objects when repairing automotive vehicles. The worker should prefer

activities in relation to machines and techniques. Also the mechanic should prefer the tangible, productive satisfaction of restoring an automotive unit to full and safe operating condition.

Temperaments

Workers in this category must be able to make generalizations, judgments, or decisions based on measurable or verifiable criteria when repairing or servicing automotive vehicles according to manufacturers' service manuals. TRUCK MECHANICS must be adaptable to situations requiring precise attainment of set limits, tolerances, and standards when repairing, adjusting, and inspecting automotive vehicles. Mechanics must also adapt to performing a variety of duties such as assembly and disassembly of automotive vehicles and their component parts; inspection for wear of parts using micrometers, calipers, and thickness gages; rebuilding of parts using hand and power tools; rewiring of electrical systems in vehicles; and repainting of automotive vehicles.

Physical Demands and Working Conditions

Generally speaking, physical demands for a TRUCK MECHANIC are rated as heavy. The worker must lift up to 50 pounds and carry parts and tools weighing up to 25 pounds. When very heavy work is involved, however, such as removing engines and transmissions, two mechanics may work as a team, or a Journeyman Mechanic may be assisted by an Apprentice Mechanic or a Mechanic Helper. The worker must be able to stoop, kneel, crouch, and crawl under tractors and trailers to make necessary repairs. A mechanic must be able to reach for, handle, and finger tools and parts when repairing vehicles, and must be able to feel metal surfaces to detect wear of parts. Normalcy of vision in near acuity, depth perception, and accommodation is required to use micrometers, calipers, and thickness gages, and to reassemble vehicle parts. Work is generally done in areas that are well lighted, heated, and ventilated. TRUCK MECHANICS are subject to the usual shop hazards such as cuts and bruises. Safety precautions must be observed when repairing heavy parts supported on jacks and hoists. Although most work is performed inside, occasionally the mechanic may have to make emergency repairs outdoors.

TRUCK-MECHANIC HELPER (auto. ser.) 620.684-014

OCCUPATIONAL STATEMENT

Assists TRUCK MECHANIC to repair and overhaul city delivery trucks, over-the-road tractor-trailer trucks, industrial trucks and other company-owned automotive vehicles, performing the following duties: Raises vehicle to specified level, using hydraulic jack. Removes and disassembles unit, such as engine, transmission, or differential, to be repaired, using hand tools and power tools. Cleans unit, using prescribed solvent. Lubricates and washes vehicle. Assists TRUCK MECHANIC by performing a variety of duties, such as furnishing materials, tools, and supplies; cleaning work area, machines, and equipment; holding materials or tools; and performing other routine duties.

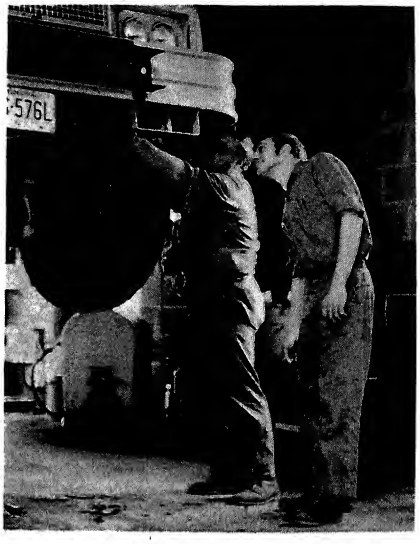
EDUCATION, TRAINING, AND EXPERIENCE

Most trucking companies prefer completion of high school or its equivalency (see page 13). Many employers feel that a worker who has completed high school, or its equivalent, has the ability to "finish the job." A mechanic helper has greater likelihood of being hired if the applicant has completed various high school shop courses, attended a trade school and completed courses in automotive mechanics, or has automotive experience gained from the military service. Helpers have to ob-

tain a chauffeur's license. Should the company do business across State lines, the helper would have to qualify as a driver under Department of Transportation regulations in order to drive a vehicle off company property.

On-the-job training generally consists of 3 to 6 months of informal instruction while the helper works under the direction of an experienced mechanic. Although most trucking companies may have one or more mechanics, not all firms employ helpers.

Other prior experience that might be advantageous would be employment at a gasoline service station, or work on automobiles or trucks as a hobby.



Truck mechanic helper.

WORKER TRAITS

Aptitudes

TRUCK MECHANIC HELPERS should have average verbal ability in order to understand oral instructions from the TRUCK MECHANIC, and to read and understand service manuals when disassembling, assembling, or servicing vehicles or vehicle parts. Spatial aptitude is required to visualize actual assemblies described in service manual diagrams and schematics and to recognize spatial relationships of parts during repair of vehicle. Form perception is essential to identify component parts. Motor coordination is required when using hand and power tools to disassemble or assemble vehicle components parts, and vehicle. Finger dexterity is required to guide and move tools to disassemble and assemble automotive equipment. Manual dexterity or turning the hands is necessary when using hand or power tools to repair automotive equipment.

Interests

TRUCK MECHANIC HELPERS should prefer work with objects when disassembling or assembling automotive equipment; work in a routine, organized manner when assisting the TRUCK MECHANIC; and activities carried on in relation to machines and techniques.

Temperaments

Workers in this category should adapt to the performance of a variety of duties such as disassembly of vehicle engines, transmissions, and differentials; cleaning of parts with solvents; preparing vehicle body for painting; and lubricating and washing the vehicle. Mechanic helpers should occasionally be able to adapt to situations requiring attainment of set limits, tolerances, and standards when gapping spark plugs, when tightening machine nuts using a torque wrench, or when grinding parts to close tolerances, or sanding body to obtain desired surface for painting.

Physical Demands and Working Conditions

Physical demands and working conditions are generally the same as those described for TRUCK MECHANIC. Strength factor is rated as heavy. Helpers are required to lift up to 50 pounds, and carry up to 25 pounds in automotive parts and tools; stoop, kneel, crouch, and crawl to reach work area under truck; and reach for, handle, and finger tools and parts when disassembling or assembling vehicle equipment. Vision is not critical, but some degree of depth perception is needed to remove and replace automotive components of the vehicle. Work is generally performed in a well-lighted, heated, and ventilated interior. The usual shop hazards exist such as sustaining cuts and bruises.

TRUCKING JARGON

In the preparation of this brochure workers in several trucking firms were observed carrying out their assigned duties. Like other industries, the trucking industry has a language of its own. Did you know that "kick the donuts" means to check the tires? And guess what a "kidney buster" is. Jargon such as this reflects the romance and humor found in the trucking environment. Here are a few of the terms that may help you understand your next conversation with a "truck jockey." The following examples of jargon are found in the *Truck Drivers Dictionary and Glossary* provided by the education section of the American Trucking Associations, Inc. The ATA gives credit for this unusual list of jargon to several Driver of the Year award winners, and the ATA Council of Safety Supervisors.

A_____

Anchor it—Apply brakes for an emergency stop.

Armstrong starter—Old-fashioned hand crank.

Aviator—Speeding driver.

B_____

Bean hauler—A driver who transports fruits and vegetables.

Big hat—State trooper.

Bob tail—Tractor cab driven without trailer; also refers to straight truck.

Bogey—An assembly of two or more axles.

Boll weevil—A novice truck driver.

C_____

Cab-over—A vehicle with a substantial part of its engine located under the cab.

Cackle crate—Truck that hauls live poultry.

Cement mixer—Truck with a noisy engine or transmission.

Chief hood lifter—Garage superintendent.

Coffee pot—Restaurant.

D_____

Dead axle—Non-powered rear axle on tandem truck or tractor.

Dock-walloper—One who loads and unloads vehicles and handles freight on the dock.

Donuts—Truck tires.

Double bottom—Unit consisting of tractor, semitrailer, and full trailer. Also called twin trailers, and doubles.

Drivers—Drive wheels.

Duals—A pair of tires mounted together.

E_____

Elevator—Hydraulic endgate.

Express body—Open box truck body.

F_____

Fifth wheel—Device used to connect a tractor to a semitrailer.

Flatbed—Truck or trailer without sides and top.

Flat face—Cab over engine.

Four-banger—Four-cylinder engines.

G

Gear bonger—Driver who grinds gears when shifting.

Gear jammer—One who continually clashes the gears.

Gum ball machine—Rotating warning light on top of an emergency vehicle.

H

Hobo—Tractor that is shifted from terminal to terminal.

Hood lifter—Garage mechanic.

Horse—Tractor or power unit.

Hundred mile coffee—Extremely strong coffee.

I

Iron—Old model truck.

Iron lunger—The conventional 200 or 250-horsepower engine.

J

Jumped the pin—Missing the fifth wheel pin on the trailer when coupling tractor to trailer.

K

Kick the donuts—Check the tires.

Kidney buster—Hard-riding truck.

L

Lay on the air—Apply brakes.

Lie sheet—Driver's log book.

Low boy—A low trailer for hauling heavy machinery.

M

Maniac—Shop mechanic.

Mexican overdrive—Kicking out of gear going down grade.

Milk run—Easy trip.

N

Nose dive—Trailer tipped forward on its nose.

O

Oakie blower—Air scoop on air intake to increase power.

P

Pajama wagon—Sleeper tractor.

Peanut wagon—Small tractor pulling a large trailer.

Peg-leg—Tandem tractor with only one power axle.

Pigtail—Cable used to transmit electrical power to trailer.

Possom belly—Livestock trailer with drop frame to haul small animals (chickens, etc.) underneath heavy cattle.

Power brake—Open throttle while applying brakes.

Put on the air—Apply the brakes.

R

Rags—Bad Tires.

Ride shot gun—Not driving; riding on right side of cab.

Road hog—Motorist who takes more than his share of the highway.

Rolltop—Trailer with a sliding roof to permit crane loading.

S

Semi—Semitrailer; used loosely in referring to tractor and trailer unit.

Shag—Small, city trailer.

Sheep herder—Driver with questionable agility.

Sick horse—A tractor in poor mechanical condition, expecially with low power.

Six banger—Six-cylinder engine.

Smoker—Tractor emitting excessive smoke from exhaust.

Spin out—Lose traction on slippery roadway.

Spotter—Terminal yard driver who parks vehicles brought in by regular drivers; also a supervisor who observes the activities of drivers on the road.

Spot the body—Park a trailer.

Squealer—Tachograph (See Glossary).

Stem winder—Hand-crank starter.

Strip her—Unload the trailer.

Sucker brakes—Vacuum brakes.

Swamper—A helper who rides with driver.

Swindle sheet—ICC log.

T

Tack—Short for tachograph or tachometer.

Tailboard artist—One who thinks he is a perfect driver.

Tandem—Semitrailer or tractor with two rear axles.

Tattle-tale—Tachograph.

Tri-axle—Three-axle tractor or trailer.

Truck jockey—Truck driver.

Twin-screw—A truck or tractor with two rear axles, both driven by the engine.

U

Unlatch—Release lock on fifth wheel to drop trailer.

W

Wide-spread—Trailer axles which are more than eight feet apart.

Woodchuck—Driver with low job seniority.

Y

Yardbird—A driver who connects and disconnects tractor-semitrailer combinations and moves vehicles around the terminal yard.

Z

Zephyr haul—A shipment of lightweight cargo.

GLOSSARY OF STANDARD TRUCKING TERMINOLOGY

The definitions of words and terms used in the trucking industry is fascinating and informative. The terms refer to equipment, policy, procedures, and regulations. Many of the definitions in this glossary were selected from two sources, *Truck Drivers Dictionary and Glossary*[1] and *Glossary of Trucking Terms*.[2] The terms listed here and in "Trucking Jargon," are just a few of those used in the trucking industry. There are many more specialized terms.

A

Aggregated Shipment: Consolidated shipments from various shippers en route to a single consignee or receiver and treated as one shipment.

American Trucking Associations, Inc. (ATA): A national federation of 51 independent and autonomous State trucking associations, each representing various classes and types of truck operation, and 13 independent and autonomous conferences, each of which represents a special class or type of truck operation. Headquarters location is 1616 P St., N.W., Washington, D.C. 20036.

A.P.U.: Authorized pickup.

Arrival Notice: A notice, furnished to consignee, of the arrival of freight.

Astray Freight: Freight separated from the waybill but marked to indicate origin and destination.

Automobile Transporter: Any company authorized to transport motor vehicles by hauling them on special vehicles or driving them (driveaway).

Axle Weight: Amount of weight carried by one axle.

B

Belt Driven: Tractor with tandem axles. Belts connected to powered frontaxle transmit power to the rearaxle.

Bill of Lading: An itemized list of goods contained in a shipment.

Bills of Lading Act: A 1917 Congressional Act pertaining to the preparation and negotiability of bills of lading.

Blocks: Supports used in trailers to prevent shipments from shifting during transportation.

Blue Label: Atomic material shipment.

Bob-Tail: Tractor operating without a trailer. Also a straight truck.

Bogey: A two-axle assembly.

Bonded Warehouse: A warehouse approved by the Treasury Department, used for storing goods until duties are paid or goods are otherwise properly released.

Break Bulk: To separate a composite load into individual shipments and route to different destinations.

Bulk Freight: Freight not in packages or containers.

C

Cab: Driver's compartment of a truck or tractor-trailer.

Cab-over-Engine Motor Truck: Motor truck or truck tractor with a substantial part of its engine

[1] *Truck Drivers' Dictionary and Glossary* (Washington: American Trucking Associations, Inc., Education Section, 1977).

[2] *Glossary of Trucking Terms* (New York: American Telephone and Telegraph Company, ca. 1967).

located under the cab.

Cargo: The freight carried by a vehicle.

Carrier: An individual, partnership, or corporation engaged in the business of transporting goods or persons.

Cartage (local): Hauling between locations in the same town, city, or suburb.

Claim: (a) A demand made upon a transportation company for payment, due to loss or damage of freight alleged to have occurred while shipment was in possession of carrier. (b) A demand upon a transportation company for refund of an overcharge.

Classification Rating: The class to which an article is assigned for the purpose of applying transportation charges.

Class I Motor Carriers: Common or contract motor carriers of property who have average gross operating revenues of $1 million or more annually from motor carrier operations.

Class II Motor Carriers: Common or contract motor carriers of property who have average gross operating revenues of $300,000 or more, but under $1 million annually from motor carrier operation.

Class III Motor Carriers: Common or contract motor carriers of property who have average gross operating revenues of less than $300,000 annually, from motor carrier operation.

Clear Record: A record which shows that a shipment was handled without loss or damage.

Combination: Motor truck or truck tractor coupled to one or more trailers (including semitrailers).

Combination Rate: A rate made by combining two or more rates published in different tariffs.

Commodity: Any article of commerce. Goods shipped.

Common Carrier: A transportation business that offers service to the general public. Interstate common carriers must hold a franchise issued by the Interstate Commerce Commission which limits service to a specific geographical area.

Common Carrier, Irregular Route: A common carrier whose routes and schedules are not regulated by government agencies.

Common Ownership: Ownership of one mode of transportation by another. Such ownership is restricted by Federal law.

Competitive Rate: A charge established to meet the competition of another transportation line.

Concealed damage: Damage to the contents of a package which is apparently in good condition externally.

Concealed Loss: Loss or damage that cannot be determined until the package is opened.

Concentration Point: A place where small shipments are consolidated into large shipments.

Conference: An independent and autonomous organization within the American Trucking Associations representing a special class or type of motor carrier operation. The 13 conferences are National Automobile Transporters; Common Carrier Conference, Irregular Route; Contract Carrier; Film Carriers; Heavy and Specialized Carriers; Local and Short Haul Carriers National; American Movers Conference; Munitions Carriers; National Tank Truck Carriers; Oilfield Haulers; Private Carriers; Regular Common Carrier; and the Steel Carriers Conference.

Connecting Carrier: A carrier that interchanges trailers with another for completion of shipments.

Consign: To send or address goods to another.

Consignee: One to whom goods are shipped.

Consignment: A shipment.

Consignor: The person by whom articles are shipped.

Container: Anything in which articles are packed.

Containerization: Shipping system based upon large cargo-carrying containers that can be easily interchanged between trucks, trains, and ships, without rehandling of contents.

Contract Carrier: A company that engages in for-hire transportation of property under individual contract or agreement with one or a limited number of shippers.

Council (American Trucking Associations, Inc.): A self-sustaining group within the American Trucking Associations, composed of individuals who specialize in some particular aspect of trucking operations. The Councils are: Council of Safety Supervisors, National Accounting and Finance Council, National Freight Claims Council, Sales Council, and the Operations

Council.

Cubic Capacity: The carrying capacity of a truck measured in cubic feet.

D

Dead Axle: An axle that supports part of the vehicle weight but does not transmit driving force to the wheels. Also called a Nonpowered Axle.

Demurrage: Detention of a freight vehicle or container beyond a stipulated time. Also the payment for such delay.

Differential Route: Route for which there is no published rate. The rate must be computed from existing published rates.

Dispatching: The scheduling and control of truck pickup and delivery.

Dock: A platform where trucks are loaded and unloaded.

Dolly: (a) An auxiliary axle assembly equipped with a fifth wheel used to convert a semitrailer to a full trailer. This is called a trailer converter dolly. (b) Small platforms on rollers or wheels used to handle freight in a warehouse.

Double Bottom: Combination consisting of a truck tractor, a semitrailer and a full trailer, coupled together.

Drag Line: A method of moving freight carts around a carrier's terminal. Refers to a moving cable (the line) that operates either from a suspended position overhead or a slot in the floor. The line supplies the motive power (drag) to the carts when they are attached to the line.

Drayage: The charge made for hauling freight on carts, drays, or trucks.

Drive Axle: An axle that supports a portion of the vehicle weight and transmits a driving force to the wheels. Also known as a powered axle.

E

En route: On the way.

E.T.A.: Estimated time of arrival.

Exclusive use of truck: A request made by a shipper, on the bill of lading, for the complete use of a vehicle.

Exempt Carrier: Trucks hauling certain commodities are exempt from Interstate Commerce Commission economic regulation. The largest portion of the exempt carriers transport agricultural commodities or seafood.

Expediting: To accelerate transportation. Expedited freight service is usually faster than normal service. An example is dispatching less than truckload quantities, on a single truck, for quick delivery.

F

Feeder Service: Short transportation truck routes from terminals into nearby areas, to collect and distribute freight to a main truck line for long haul deliveries.

Film Carrier: Any for-hire company authorized to transport films.

Fifth Wheel: A device used to connect a truck tractor to a semitrailer.

Fixed Charges: Carrier costs that do not vary with an increase or decrease in traffic. An accounting classification.

Flammable Liquids: Liquids that give off vapors capable of burning.

Fork Lift: A machine used to move goods loaded on pallets or skids.

Free-Astray: A shipment miscarried or unloaded at the wrong terminal is billed and forwarded to the correct terminal free of charge because it went astray.

Free Time: The time period freight is held before storage charges are applied.

Freight: Any commodity being transported.

Freight Bill: Document for a common carrier shipment. Gives description of the freight, its weight, amount of charges, taxes, and whether collect or prepaid. Charges paid in advance are called prepaid freight bills. Charges collected at destination are called destination or collect freight bills.

Freight Forwarder: A company that assembles small shipments, from various shippers, into larger shipments to form a full truck or car load. Forwarders send the consolidated freight to a station where it is disassembled and routed to the proper destinations.

Full Trailer: Truck trailer with wheels on both ends (as compared to a semitrailer in which the front rests on the rear of the power unit).

G

Gateway: A point where freight moving from one territory to another is interchanged between transportation lines.

Goods: Merchandise.

G.B.L.: Government bill of lading.

Gross Weight: (a) The weight of an article together with the weight of its container and the material used in packing. (b) As applied to a truck, the weight of a truck together with the weight of its entire contents.

H

Heater Service: Heat protection of freight that would be damaged by freezing.

Heavy Specialized Carriers: A trucking company franchised to transport articles which, because of size, shape, weight, or other inherent characteristics, require special equipment for loading, unloading, or transporting.

High-Cube: A truck body with above average cubic content. Usually constructed with low floors and thin walls.

Hot Load: Emergency shipment of cargo needed in a hurry.

I

Icing Charge: A charge made for cooling perishable freight.

Inflammable Liquids: see Flammable Liquids.

Initial Carrier: The transportation line that picks up a shipment from the shipper.

Insulated Van Body: Van body designed primarily for transportation of commodities at controlled temperatures. It may be provided with equipment for refrigeration or heating.

Insurance Freight: Insurance that protects shippers if goods are accidentally damaged during transportation.

Interline Carrier: Between two or more transportation lines.

Interline Freight: Freight which moves from point of origin to destination over the lines of two or more transportation companies.

Intermediate Carrier: A transportation line hauling a shipment between the originating and the delivering carrier.

Interstate Commerce: The Interstate Commerce Act defines interstate commerce as transportation from one State or territory of the United States or the District of Columbia to any other, or from any place in the United States through a foreign country to any other place in the United States, or from or to any place in the United States to or from a foreign country but only insofar as such transportation takes place within the United States.

Interstate Commerce Act: An act of Congress regulating the practices, rates, and rules of transportation lines engaged in handling interstate traffic.

Interstate Commerce Commission (ICC): The Federal body charged with enforcing acts of Congress affecting interstate commerce.

Intrastate Traffic: Traffic having origin, destination, and entire transportation within the same State.

Irregular Common Carrier: See common carrier, Irregular route.

J

Jacket: A cover placed around such containers as cans and bottles.

L

Lading: That which constitutes a load; the freight in a vehicle.

Less than truck load (LTL): A quantity of freight less than that required for the application of a truckload rate.

Line Haul: Movement of freight between cities, excluding pickup and delivery service.

Live Axle: Axle driven by engine.

Local Cartage Carrier: A company that transports property entirely within the commercial zone of a municipality (or contiguous cities). This may be pickup and delivery service for a line haul carrier.

Log Book: A book carried by truck drivers, which contains daily records of hours, route, etc., as required by Interstate Commerce Commission regulations.

M

Manifest: A document describing a shipment or the contents of a vehicle or ship.

Minimum Rate: The lowest lawful rate that may be charged for transporting a shipment.

Mixed Truckload: A truckload of different articles combined into a single shipment.

Motor Freight Association: A nonprofit motor carrier organization that prepares, files, and distributes tariff material for member carriers in a specified territory.

Missile Carrier: Flatbed truck body designed for hauling rockets and other lengthy cargo.

Mode: Frequently used to refer to the basic divisions of the transportation industry. The principal modes of transportation are truck, rail, air, and water.

Motor Carrier Act, 1935: An Act of Congress providing regulation of motor carriers in a specific territory.

Motor Truck: Single, self-propelled motor vehicle carrying its load on its own wheels. Primarily designed for the transportation of property.

Mover (Household Goods Carrier): A company that transports household goods by motor vehicle.

Munitions Carrier: A company that transports munitions by motor vehicle.

N

National Accounting and Finance Council: A self-sustaining subordinate group within the American Trucking Associations, composed of individuals who specialize in motor carrier accounting and finance.

National Freight Claims Council: A self-sustaining subordinate group within the American Trucking Associations, composed of individuals who specialize in freight claims matters.

O

Oilfield Hauler: Any company authorized to transport oil field equipment.

Operations Council: A self-sustaining subordinate group within the American Trucking Associations, composed of individuals who specialize in terminal, city, and line haul operations.

Open Top: A truck or trailer without a permanent metal top.

Overage: Excess freight over the quantity believed to have been shipped, or more than the quantity shown on a shipping document.

Over-Short-and-Damage (OS&D): Discrepancies between freight on hand and freight shown on the bill. Freight not covered by billing is "over"; freight missing is "short." Freight received in bad condition is "damaged." Freight agents file an OS&D report showing these discrepancies.

Over-the-Road (ORT): Intercity.

P

Packing List: A detailed inventory of items contained in shipment.

Perishable Freight: Freight subject to decay or deterioration.

Point of Origin: The terminal at which freight is received from the shipper.

Pole Trailer: Truck trailer that uses a rigid pole as a structural member connecting the axle unit to the truck pulling it. They are used to haul long, rigid loads such as logs, poles, and pipe.

Prepaid: A term denoting that transportation charges have been or are to be paid at shipping point.

Private Carrier: A company that maintains its own trucks to transport its own freight.

Proof of Delivery: Delivery receipt copy of freight bill signed by receiver at time of delivery.

Pusher Axle: Nonpowered rear axle on tractor.

R

Rate: The charge of transporting freight.

Regular Common Carrier: Any company authorized to serve the public and to transport general commodities over set routes.

Rig: Truck, tractor and semi-trailer, truck and full trailer, or other combination.

S

Safety Supervisors, Council of: A self-sustaining, subordinate group within the American Trucking Associations, composed of individuals who specialize in motor carrier safety.

Sales Council: A self-sustaining group within the American Trucking Associations, composed of individuals who specialize in customer relations and sales management matters for the motor carrier industry.

Sedan Delivery Body: Small panel truck body used on a passenger car chassis.

Semitrailer: Truck trailer equipped with one or more axles and constructed so that the front end rests upon a truck tractor.

Shipping Order: Instructions to carrier for transportation of a shipment, usually a copy of the bill of lading.

Shortage: When quantity actually received is less than that shown on the waybill.

Skid: A wooden platform on which heavy articles or packaged goods are placed to permit handling by freight handling equipment.

Sleeper: Truck with a sleeping compartment in the cab.

Sleeper Cab: A truck tractor or motor truck cab incorporating a bed or bunk.

Sliding Fifth Wheel: A fifth wheel assembly capable of being moved forward or backward on the truck tractor to obtain desired load distribution between tractor and trailer axles.

Sliding Tandem: A two-axle assembly capable of being moved forward or backward on the trailer body to obtain desired load distribution.

Spotter: Worker in terminal yard who parks vehicles brought in by regular drivers. Also a supervisor who checks the activities of drivers on the road.

State Trucking Association: An independent and autonomous association representing all classes and types of truck operation in a State. American Trucking Associations, Inc., is a federation of these State trucking associations.

Steering Axle: An axle through which directional control of the vehicle is applied. It may be powered or nonpowered and there may be more than one steering axle on a single unit.

Straight Truck: A truck with the body and engine mounted on the same chassis. (As contrasted with a combination unit such as a tractor semitrailer.)

T

Tachograph: A device used in a cab to automatically record miles driven, number of stops, speed, and other factors during a trip.

Tag: An identifying card or label attached to an article or its container.

Tandem Axle: An assembly of two axles, either of which may be powered.

Tank Truck Carrier: Any for-hire carrier that serves the general public and is authorized to carry petroleum, chemical, liquid, or dry commodities in bulk, by means of specialized tank truck units.

Tank Trailer: Enclosed truck trailer designed solely for the transportation of fluid commodities in bulk.

Tare Weight: The weight of a container and the material used for packing. Also, as applied to a loaded truck, the weight of the truck, exclusive of its contents.

Terminal: A building for the handling and temporary storage of freight pending transfer between locations.

Through Rate: A rate applicable for transportation of commodities from point of origin to destination.

Tilt Cab: A cab-over-engine truck or truck tractor cab designed to move to provide ready access to the engine.

Toll: A charge made for the use of a facility such as a bridge or turnpike.

Ton-Mile: A unit of measure of transportation. The movement of a ton of freight 1 mile.

Tracer: A request that a carrier locate a shipment to speed its movement or to establish proof of delivery, or a request for an answer to a previously filed claim.

Traffic: Persons and property carried by transportation lines.

Transport: To move freight from one place to another.

Transportation: The movement of traffic from one place to another.

Transportation Act of 1920: An act of Congress approved February 29, 1920, providing for the termination of federal control of transportation lines at midnight, February 29, 1920, and amending the Act to Regulate Commerce.

Truck Mile Earnings: Income determined by dividing the gross freight revenue by miles operated.

Truck Tractor: Motor vehicle designed primarily for pulling truck trailers and semitrailers; constructed to carry part of the weight and load of a semitrailer.

Truck Trailer: Freight-carrying vehicle designed to be pulled by a truck or truck tractor.

Truckload: (a) Quantity of freight required to fill a truck. (b) When used in connection with freight rates, the quantity of freight necessary to qualify a shipment for a truckload rate.

Twin Screw: A truck or tractor with two rear axles, both driven by the engine.

U

Unclaimed Freight: Freight which has not been called for by the receiver or owner, or freight that cannot be delivered because of incorrect address.

V

Valuation, Actual: True value of goods required to be shown on bill of lading, when rate to be applied is dependent on that fact.

W

Warehouse: A place for the reception and storage of goods.

Waybill: Description of goods sent with a common carrier freight shipment.

Weight Sheets: Itemized list of articles furnished by shippers to weighing bureaus.

Wet Goods: Liquids.

Y

Yard Jockey: Person who operates a yard tractor or yard mule, a small tractor used to move semitrailers around the terminal yard.

Yard Mule: Small tractor used to move semitrailers around the terminal yard.

Yard Spotter: See Spotter.

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APPENDIX

EXPLANATION OF WORKER TRAIT COMPONENTS

Worker traits[1] are those abilities and individual characteristics that a worker should have to achieve average successful job performance.

Aptitudes

Specific capacities and abilities an individual needs in order to learn or perform adequately a task or job duty.

Intelligence: Genéral learning ability. The ability to catch on or understand instructions and underlying principles. Ability to reason and make judgments. Closely related to doing well in school.

Verbal: Ability to understand meanings of words and ideas associated with them, and to use them effectively. To comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.

Numerical: Ability to perform arithmetic operations quickly and accurately.

Spatial: Ability to think visually of geometric forms and to comprehend the two-dimensional representation of three-dimensional objects. The ability to recognize the relationships resulting from the movement of objects in space.

Form Perception: Ability to perceive pertinent detail in objects or in pictorial or graphic material. To make visual comparisons and discriminations and to see slight differences in shapes and shadings of figures and widths and lengths of lines.

Clerical Perception: Ability to perceive pertinent detail in verbal or tabular material. To observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation.

Motor Coordination: Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and swiftly.

Finger Dexterity: Ability to move the fingers and manipulate small objects with the fingers rapidly and accurately.

Manual Dexterity: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.

Eye-Hand-Foot Coordination: Ability to move the hand and foot coordinately with each other in accordance with visual stimuli (not measured by the general aptitude test battery).

Color Discrimination: Ability to perceive or recognize similarities or differences in colors, or in shades or other values of the same color; to identify a particular color, or to

[1]Excerpts from *Dictionary of Occupational Titles*, vol. II, app. B, 3d ed.; and *Handbook for Analyzing Jobs*, app. B (Washington: U.S. Department of Labor, Manpower Administration, 1965 and 1972).

recognize harmonious or contrasting color combinations, or to match colors accurately.

Interests

Preferences for certain types of work activities or experiences, with accompanying rejection of contrary types of activities or experiences.

The interest factors are as follows:

1a. A preference for activities dealing with objects.	vs.	1b. A preference for activities concerned with the communication of data.
2a. A preference for activities involving business contact with people.	vs.	2b. A preference for activities of a scientific and technical nature.
3a. A preference for activities of a routine, concrete, organized nature.	vs.	3b. A preference for activities of an abstract and creative nature.
4a. A preference for working for the presumed good of people.	vs.	4b. A preference for activities that are carried on in relation to processes, machines, and techniques.
5a. A preference for activities resulting in prestige or the esteem of others.	vs.	5b. A preference for activities resulting in tangible, productive satisfaction.

Temperaments

Different types of occupational situations to which workers must adjust:

DCP (Direction, Control, and Planning): Accepting responsibility for the direction, control or planning of an entire activity or the activities of others.

FIF (Feelings, Ideas, or Facts): The interpretation of feelings, ideas, or facts in terms of personal viewpoint.

INFLU (Influencing): Influencing people in their opinions, attitudes, or judgments about ideas or things.

SJC (Sensory or Judgmental Criteria): Making generalizations, evaluations, or decisions based on sensory or judgmental criteria.

MVC (Measurable or Verifiable Criteria): Making generalizations, judgments, or decisions based on measurable or verifiable criteria.

DEPL (Dealing with People): Dealing with people in actual job duties beyond giving and receiving instructions.

REPCON (Repetitive or Continuous): Performing repetitive work, or continuously performing the same work, according to set procedures, sequence, or pace (according to a routine, with an absence of diversion or room for independent judgment).

PUS (Performing under Stress): Performing under stress when confronted with emergency, critical, unusual, or dangerous situations; or in situations in which working speed and sustained attention are vital to the job.

STS (Set Limits, Tolerances, or Standards): The precise attainment of set limits, tolerances, or standards.

VARCH (Variety and Change): Performing a variety of duties, often changing from one task to another of a different nature without loss of efficiency or composure.

Physical Demands

The physical requirements a worker must meet in a job.

1. **Strength.** This factor is expressed in terms of sedentary, light, medium, heavy, and very heavy, and is measured by involvement of the worker with one or more of the following activities:

a. Standing, walking, sitting
Standing: Remaining on one's feet in an upright position at a work station without moving about.
Walking: Moving about on foot.
Sitting: Remaining in the normal seated position.

b. Lifting, carrying, pushing, pulling
Lifting: Raising or lowering an object from one level to another (includes upward pulling).
Carrying: Transporting an object, usually holding it in the hands or

arms, or on the shoulder.
Pushing: Exerting force upon an object so that the object moves away from the force (includes slapping, striking, kicking, and treadle actions).
Pulling: Exerting force upon an object so that the object moves toward the force (includes jerking).

The five degrees of strength are defined and illustrated below.

Sedentary Work
Lifting 10 pounds maximum and occasionally lifting and/or carrying such articles as dockets, ledgers, and small tools. Although a sedentary job is defined as one which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and all other sedentary criteria are met.

Light Work
Lifting 20 pounds maximum with frequent lifting and/or carrying objects weighing up to 10 pounds. Even though the weight lifted may be only a negligible amount, a job will be in this category when (1) it requires walking or standing to a significant degree or (2), it requires sitting most of the time but entails pushing and pulling of arm and/or leg control.

Medium Work
Lifting 50 pounds maximum with frequent lifting and/or carrying of objects weighing up to 25 pounds.

Heavy Work
Lifting 100 pounds maximum with frequent lifting and/or carrying of objects weighing up to 50 pounds.

Very Heavy Work
Lifting objects in excess of 100 pounds with frequent lifting and/or carrying of objects weighing 50 pounds or more.

2. Climbing and/or Balancing. Climbing emphasizes body agility; balancing, body equilibrium.
Climbing: Ascending or descending ladders, stairs, scaffolding, ramps, poles, and the like, using feet and legs and/or hands and arms.
Balancing: Maintaining body equilibrium to prevent falling when walking, standing, crouching, or running on narrow, slippery, or erratically moving surfaces; or maintaining body equilibrium when performing gymnastic feats.

3. Stooping, Kneeling, Crouching, and/or Crawling. These activities require full use of lower extremities as well as back muscles.
Stooping: Bending body downward and forward by bending spine at waist.
Kneeling: Bending legs at knees to come to rest on knee or knees.
Crouching: Bending body downward and forward by bending legs and spine.
Crawling: Moving about on hands and knees or hands and feet.

4. Reaching, Handling, Fingering, and/or Feeling.
Reaching: Extending the hand(s) and arm(s) in any direction.
Handling: Seizing, holding, grasping, turning, or otherwise working with hand or hands (fingering not involved).
Fingering: Picking, pinching, or otherwise working with fingers primarily (rather than with whole hand or arm as in handling).
Feeling: Perceiving attributes of objects such as size, shape, temperature, or texture by means of receptors in skin, particularly those of finger tips.

5. Talking and/or Hearing.
Talking: Expressing or exchanging ideas by means of spoken word.
Hearing: Perceiving nature of sounds by ear.

6. Seeing. Seeing is the ability to perceive the nature of objects by the eye. The important aspects of vision are the following:
Acuity, far: Clarity of vision at 20 feet or more.
Acuity, near: Clarity of vision at 20 inches or less.
Depth perception: Three-dimensional vision. Ability to judge distances and space relationships so as to see objects where and as they actually are.
Field of vision: Area that can be seen up and down or to right or

left while eyes are fixed on a given point.
Accommodation: Adjustment of lens of eye to bring an object into sharp focus. This item is especially important when doing near-point work at varying distances from eye.
Color vision: Ability to distinguish and identify colors.

Environmental Conditions

The physical surroundings of a job-worker situation that affect the worker's ability to do his or her job.

1. **Inside, Outside, or Both.**
Inside: Protection from weather conditions but not necessarily from temperature changes.
Outside: No effective protection from weather.
Both: Activities occur inside and outside in approximately equal amounts.

2. **Extreme Cold With or Without Temperature Changes.**
Extreme cold: Temperature sufficiently low to cause marked bodily discomfort.
Temperature changes: Variations in temperature that accompany extreme cold and are sufficient to cause marked bodily reactions.

3. **Extreme Heat With or Without Temperature Changes.**
Extreme heat: Temperature sufficiently high to cause marked bodily discomfort.
Temperature changes: Variations in temperature that accompany extreme heat and are sufficient to cause marked bodily reactions.

4. **Wet and/or Humid.** Included in this factor are conditions in which the worker has contact with water or other liquids and/or works in an oppressively humid atmosphere, such as the slashing department of a cotton textile mill or the wet-cleaning room of a drycleaning plant.

5. **Noise and/or Vibration.** For this factor to be primary there must be sufficient noise, either constant or intermittent, to cause marked distraction or possible hearing loss and/or sufficient vibration (which is the production of an oscillating movement or strain on the body or its extremities from repeated motion or shock) to cause bodily harm if endured day after day.

6. **Hazards.** Conditions or situations in which there is danger to life, health, or body. This category includes a variety of physical hazards, such as proximity to moving mechanical parts, electrical shock, working on scaffolding and high places, exposure to burns and radiant energy, exposure to all types of explosives, and exposure to toxic chemical and biological agents.

7. **Atmospheric Conditions.** The following conditions affect the respiratory system or the skin.
Fumes: Solid particles generated by condensation from the gaseous state, generally after volatilization from molten metals, and often accompanied by a chemical reaction such as oxidation. For example, cadmium, lead, magnesium, manganese, and zinc fumes are toxic and may cause metal fume fever.
Odors: Noxious, nontoxic smells.
Dusts: Solid particles generated by handling, crushing, grinding, rapid impact, detonation, and decrepitation of organic and inorganic materials such as rock, ore, metal, coal, wood, and grain. Toxic dusts include those which may produce pneumoconiosis, systemic poisoning, dermatoses of primary irritant or allergic nature, and cancer. For example, some ore bodies containing various forms of quartz can be causes of silicosis.
Mists: Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as splashing, foaming, and atomizing. Includes chromic acid mists from electroplating, acid and alkali mists from pickling or electroplating cleaning operations, and oil mists generated from machine tool lubricants and coolants.
Gases: Normally formless fluids which occupy the space of enclosure and which can be changed to the liquid or solid state only by

the combined effect of increased pressure and decreased temperature. Carbon monoxide, hydrogen cyanide, oxides of nitrogen, and ozone are some of the hazardous industrial gases.

Poor Ventilation: Insufficient or excessive movement of air causing a feeling of suffocation or exposure to drafts.

INDEX TO JOB DESCRIPTIONS[1]

[1] *All capital letters:* main titles identifying the job; *all lower case letters:* alternate or synonym titles, by which a job is also known *initial capital letters:* related titles. These titles are self-descriptive variations of the jobs with which they are associated.

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Tampa, Florida 33602

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Detroit, Michigan 48202

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St. Louis, Missouri 63101

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New York, New York 10047

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Austin, Texas 78778

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Madison, Wisconsin 53702

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Utah Department of Employment Security
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Salt Lake City, Utah 84147

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